F.No 7-08/2004 RD. BY AIR MAIL (By Air Mail)



M/s Aero Design ltd., 2013-39th Avenue NE, Calgary, Alberta, Canada T2E 6R7



भारत सरकार

GOVERNMENT OF INDIA CIVIL AVIATION DEPARTMENT OFFICE OF THE

नागर विमानन विभाग

महानिदेशक नागर विमानन का कार्यालय

सफदरजंग एयरपोर्ट के सामने

नर्ड दिल्ली - ११० ००३

DIRECTOR GENERAL OF CIVIL AVIATION

AIRCRAFT ENGINEERING DIRECTORATE OPP. SAFDARJUNG AIRPORT, NEW DELHI - 110 003

Tele: 91-011-24622500 Ext.: 268

e-mail:

Mumbai - 400054

suresh.dgca@nic.in

Reference: No.:

संख्या :

7-8/2004-RD (Part-I)

Dated:

दिनांक :

18.03.2013

M/s Global Vectra Helicorp Ltd. Hangar No. C-He/Hf, Airport Authority of India, Civil Aerodrome, Juhu,

Sub: Acceptance of FAA STC No's SR02680NY & SR02770NY for installation of Cargo Basket & Fixed Cabin Step respectively on Eurocopter AS350B3 operated by M/s Global Vectra Helicorp Limited, Mumbai

Ref: 1) M/s global Vectra Helicorp Ltd. letter no. GVHL/DDG-MUM/QD/2013/23 dated 19 Feb2013

- 2) Dte of Airworthiness, DGCA Hqrs. Note F.No. 4-101/2009-AI (1) dated 04 Mar 2013
- 3) Aero Design Ltd. Letter no. Quote 4485 dated 15th Feb 2013 to M/s Global Vectra Helicorp Ltd.

Sir,

Reference may please be made to the letters under references 1, 2 & 3 on the subject matter.

The submitted documents with regard to subject matter have been examined and it is observed that the following documents/clarifications have not been submitted.

- (i) The effect of design changes specified in STC's on operational capability at high altitude >10,000 ft.
- (ii) The effect of design changes specified in STC's at high ambient temperature up to +50 deg C at sea level conditions to ensure that affected instrument/ equipment/aircraft system would continue to function up to maximum ambient temperature of +50 deg C.
- (iii) Service & reliability/safety records pertaining to modification/change of design specified in STC's.

Therefore, you are requested to advise the STC holder to submit the above mentioned documents/clarifications to this office at the earliest.

Yours faithfully,

(SK Singh)

Deputy Director (AE)

for Director General of Civil Aviation

Cc: 1. DAW, DGCA Hqrs

- 2. O/o DDG (WR), Mumbai
- 3. M/s Aero Design Ltd, 2013-39th Avenue NE, Calgary, Alberta, Canada, T2E 6R7



Supplemental Type Certificate

This approval is issued to:

Number: SH08-16

Aero Design Ltd.

Issue No.: 3

2013 39th Avenue North East

Approval Date: April 11, 2008

Calgary, Alberta

Issue Date: October 28, 2010

Canada T2E 6R7

Responsible Office:

Prairie and Northern

Aircraft/Engine Type or Model:

EUROCOPTER AS 350 B, AS 350 B1, AS 350 B2, AS 350 B3,

AS 350 BA, AS 350 D, AS 350 D1,

EUROCOPTER FRANCE AS 355 E, AS 355 F, AS 355 F1, AS

355 F2, AS 355 N, AS 355 NP

Canadian Type Certificate or Equivalent:

EUROCOPTER AS 350: H-83

EUROCOPTER FRANCE AS 355: H-87

Description of Type Design Change:

Installation of External Attachment Provisions and Cargo

Basket.

Installation/Operating Data,
Required Equipment and Limitations:

Configuration A – External Attachment Provisions Only:

Installation of External Attachment Provisions to be completed in accordance with Transport Canada approved, AERO Design Ltd. Document Control List, DCL786-1, Revision 3, dated 16 June 2010, or later approved revision.

External Attachment Provisions installed in accordance with DCL786-1 may remain installed if the basket installation is removed.

Configuration B - External Cargo Basket (Short Basket):

Installation of Configuration A, External Attachment Provisions, is a prerequisite for installation of Configuration B, External Cargo Basket Installation. Installation of Quick Release Cargo Basket to be completed in accordance with Transport Canada approved, AERO Design Ltd. Document Control List, DCL776-1, Revision 3, dated 16 June 2010, or later approved revision.

...See Continuation Sheet



Conditions: This approval is only applicable to the type/model of aeronautical product specified therein. Prior to incorporating this modification, the installer shall establish that the interrelationship between this change and any other modification(s) incorporated **will not** adversely affect the airworthiness of the modified product.

D.S. Austen For Minister of Transport



DESIGN APPROVAL DOCUMENT TRANSFER

Transfer of this design approval document requires the prior approval of the Minister and the reissue of this document in the name of the transferee.

The reissue of this design approval document in the name of the transferee will be contingent on the holder and the transferee fulfilling their responsibilities as described in section 521.357 of the *Canadian Aviation Regulations*.

TRANSFERT DU DOCUMENT D'APPROBATION DE LA CONCEPTION

L'approbation préalable du ministre est exigée en vue d'un transfert de ce document d'approbation de la conception et la réédition de ce document au nom du cessionnaire.

La réédition de ce document d'approbation de la conception au nom du cessionnaire est conditionnelle à la satisfaction des exigences et des responsabilités, du titulaire et du cessionnaire, décrites dans l'article 521.357 du Règlement de l'aviation canadien.

I have reviewed the above requirements and recognize that until the above requirements are met the certificate and all its privileges and obligations will not be transferred.

J'ai examiné les conditions susmentionnées et je comprends que le transfert du certificat et des privilèges et des obligations s'y rattachant ne sera pas effectué tant que ces conditions n'auront pas été respectées.

Signature of holder/signature du titulaire

date/date



(Continuation Sheet)

Number: SH08-16 Issue 3

NOTE: THIS ADDENDUM SHALL REMAIN PART OF THE CERTIFICATE REFERRED TO THEREIN.

Configuration C – External Cargo Basket (Short Basket – Alternate):

-Removed-

Configuration D - External Cargo Basket (Medium Basket):

Installation of Configuration A, External Attachment Provisions, is a prerequisite for installation of Configuration D, External Cargo Basket Installation. Installation of Quick Release Cargo Basket to be completed in accordance with Transport Canada approved, AERO Design Ltd. Document Control List, DCL764-1, Revision 3, dated 16 June 2010, or later approved revision.

Configuration E - External Cargo Basket (Long Basket)

Installation of Configuration A, External Attachment Provisions, is a prerequisite for installation of Configuration E, External Cargo Basket Installation. Installation of Quick Release Cargo Basket to be completed in accordance with Transport Canada approved, AERO Design Ltd. Document Control List, DCL784-1, Revision 3, dated 16 June 2010, or later approved revision.

Configuration F - External Cargo Basket (Long Basket - Alternate)

-Removed-

Cargo Basket Modifications:

Modifications to the Cargo Basket configurations are eligible in accordance with Transport Canada approved, AERO Design Ltd., Document Control List DCL704, Revision 6, dated 29 April 2010, or later approved revision. Eligibility limitations are noted on the drawings.

Data Pertinent to All Configurations:

Transport Canada approved, AERO Design Ltd. Flight Manual Supplement FMS764.91, Revision 2, dated 16 June 2010, or later approved revision is required with this installation.

Transport Canada accepted, AERO Design Ltd. Instructions for Continued Airworthiness ICA764.90, Revision 3, dated 12 April 2010, or later accepted revision is required with this installation.

Basis of certification remains as defined in the applicable Type Certificate Data Sheets.

- End -

AS350 & AS355 SERIES HELICOPTERS

ROTORCRAFT FLIGHT MANUAL SUPPLEMENT for the INSTALLATION of the AERO DESIGN

QUICK RELEASE CARGO BASKET

CARGO BASKET MODELS:

76401, 77601, 78401

TCCA Supplemental Type Certificate No. SH08-16 FAA Supplemental Type Certificate No. SR02680NY

Sections I, II, III and IV of this document comprise the Transport Canada Approved sections of this Flight Manual Supplement. Compliance with Section I, Limitations, is mandatory. Section V and any subsequent sections if present are Unapproved and are provided for information only.

The information and data contained in this Flight Manual Supplement supersede or supplement that contained in the basic Approved Flight Manual for the Eurocopter AS350 and AS355 Series Helicopters when fitted with the Quick Release Cargo Basket Installation and/or Quick Release Maintenance Step Installation. For limitations, procedures and performance not listed in this Flight Manual Supplement refer to the Approved Flight Manual and other approved Flight Manual Supplements.



Revision 2 16 June 2010 OCT 2 8 2010

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TRANSPORT CANADA APPROVED

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11	Normal Procedures	3
III	Emergency Procedures	3
IV	Performance	3
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Record of Revisions

Revision	Issue Date	Pages Revised	Date Inserted	Ву
0	25 Feb, 2008	None		
1	29 Jan, 2010	All		
2	16 June 2010	1, 2, 4-12		

I LIMITATIONS

- 1. The maximum load in the AERO Design Ltd. Quick Release Cargo Basket Models 764 and 784 is 250 lb. (113 kg). The maximum load in the AERO Design Ltd. Quick Release Cargo Basket Model 776 is 300 lb. (135.7 kg).
- Only one basket may be installed on the helicopter, on the right or left side.
- 3. Flight operations limited to VFR conditions with AERO Design Ltd. Quick Release Cargo Basket installed.
- 4. V_{NE} is unchanged from the basic rotorcraft.
- 5. AS355NP only: For Category A operations, the basket must be removed. Mounting provisions may be left in place.

II NORMAL PROCEDURES

- 1. Pre-flight inspections:
 - Ensure that all cargo stored in the cargo basket is properly tied down and secured for flight.
 - b) Ensure that the lid of cargo basket is closed and secured.
 - Ensure the basket is locked in postion on the beams. Pull up on the forward end of the basket to check.

CAUTION

It is possible to exceed the lateral centre of gravity limits of the rotorcraft under some loading conditions. Pilots must ensure that lateral C of G is within limits when loading the basket.

III EMERGENCY PROCEDURES

No change from basic Approved Flight Manual.

IV PERFORMANCE

- Cruise performance and range will be reduced by approximately 8 percent with the Cargo Basket Installed.
- 2. AEO climb performance will be reduced by up to 150 fpm.

Revision 1 29 January 2010 OCT 2 8 2010 Page 3 TRANSPORT CANADA APPROVED

V WEIGHT AND BALANCE

This section contains weight and balance information for cargo basket models 76401, 77601, and 78401. Each model has multiple configurations. Refer to the weight and balance information applicable to model and configuration installed.

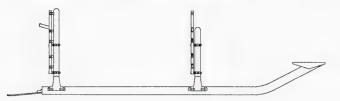
Longitudinal and Lateral moment arms for Cargo are given only for the center of the Cargo Basket. Due to the length of the basket, some loading arrangements may require that actual moment arms be measured, to determine the correct moments about the center of gravity.

CAUTION:

It is possible to exceed lateral CG limits in some configurations.

1. Configuration 786 – Mounting Provisions Only

The following weight and balance is for the mounting provisions installed in accordance with drawing 78602 or 78603 as applicable.



Standard

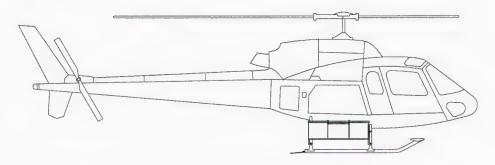
P/N	Description	Weight	Longi	tudinal	Late	eral
			arm	moment	arm	moment
		lb	in	in-lb	in	in-lb
78602-01-01	Low Right Hand Provisions	6.4	135.6	866.0	37.2	238.0
78602-02-01	High Right Hand Provisions	6.4	135.6	866.0	36.5	233.8
78603-01-01	Right Hand Eurocopter Pod Compatible Provisions	6.8	135.4	921.0	38.8	263.6
78602-01-02	Low Left Hand Provisions	6.4	135.6	866.0	-37.2	-238.0
78602-02-02	High Left Hand Provisions	6.4	135.6	866.0	-36.5	-233.8
78603-01-02	Left Hand Eurocopter Pod Compatible Provisions	6.8	135.4	921.0	-38.8	-263.6

Metric

P/N	Description	Weight	Longi	tudinal	Lat	eral
			arm	moment	arm	moment
		kg	mm	mm-kg	mm	mm-kg
78602-01-01	Low Right Hand Provisions	2.9	3443.0	9970.6	944.6	2735.4
78602-02-01	High Right Hand Provisions	2.9	3443.0	9970.6	928.1	2687.6
78603-01-01	Right Hand Eurocopter Pod Compatible Provisions	3.1	3440.1	10584.8	984.6	3029.6
78602-01-02	Low Left Hand Provisions	2.9	3443.0	9970.6	-944.6	-2735.4
78602-02-02	High Left Hand Provisions	2.9	3443.0	9970.6	-928.1	-2687.6
78603-01-02	Left Hand Eurocopter Pod Compatible Provisions	3.1	3440.1	10584.8	-984.6	-3029.6

2. Configuration 776 (Short Basket)

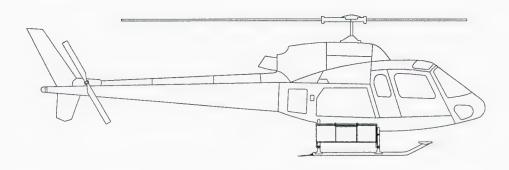
The following weight and balance is for cargo baskets installed in accordance with drawing 77601.



Standard

P/N	Description	Weight	Longit	tudinal	La	teral
			arm	moment	arm	moment
		lb	in	in-lb	in	in-lb
77601-01-01	Low Right Hand Installation	41.4	135.9	5627.5	45.9	1900.5
77601-02-01	High Right Hand Installation	41.4	135.9	5627.5	45.1	1868.3
77601-03-01	Eurocopter Pod Compatible Right Hand Installation	41.8	135.9	5681.0	47.8	1996.1
	Maximum Cargo (RH)	300.0	135.9	40770.0	*	*
77601-01-02	Low Left Hand Installation	41.4	135.9	5627.5	-45.9	-1900.5
77601-02-02	High Left Hand Installation	41.4	135.9	5627.5	-45.1	-1868.3
77601-03-02	Eurocopter Pod Compatible Left Hand Installation	41.8	135.9	5681.0	-47.8	-1996.1
	Maximum Cargo (LH)	300.0	135.9	40770.0	*	*

^{*}Lateral arm is same as basket configuration. Lateral moment is calculated with lateral arm.



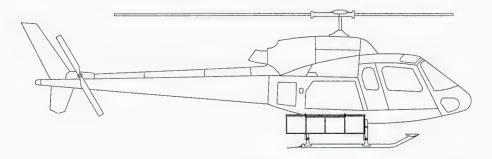
Metric

	MICELLO				
Description	Weight	Long	itudinal	Late	eral
		arm	moment	arm	moment
	kg	mm	mm-kg	mm	mm-kg
Low Right Hand Installation	18.7	3452.6	5627.5	1166.0	21842.9
High Right Hand Installation	18.7	3452.6	5627.5	1146.3	21473.2
Eurocopter Pod Compatible Right Hand Installation	18.9	3452.6	5681.0	1212.9	22941.6
Maximum Cargo (RH)	135.7	3452.6	468768.7	*	*
Low Left Hand Installation	18.7	3452.6	5627.5	-1166.0	-21842.9
High Left Hand Installation	18.7	3452.6	5627.5	-1146.3	-21473.2
Eurocopter Pod Compatible Left Hand Installation	18.9	3452.6	5681.0	-1212.9	-22941.6
Maximum Cargo (LH)	135.7	3452.6	468768.7	*	*
	Low Right Hand Installation High Right Hand Installation Eurocopter Pod Compatible Right Hand Installation Maximum Cargo (RH) Low Left Hand Installation High Left Hand Installation Eurocopter Pod Compatible Left Hand Installation	Description Weight kg Low Right Hand Installation 18.7 High Right Hand Installation 18.7 Eurocopter Pod Compatible Right Hand Installation 18.9 Maximum Cargo (RH) 135.7 Low Left Hand Installation 18.7 High Left Hand Installation 18.7 Eurocopter Pod Compatible Left Hand Installation 18.9	Description Weight kg Long arm mm Low Right Hand Installation 18.7 3452.6 High Right Hand Installation 18.7 3452.6 Eurocopter Pod Compatible Right Hand Installation 18.9 3452.6 Maximum Cargo (RH) 135.7 3452.6 Low Left Hand Installation 18.7 3452.6 High Left Hand Installation 18.7 3452.6 Eurocopter Pod Compatible Left Hand Installation 18.9 3452.6	Description Weight kg Longitudinal arm moment mm-kg Low Right Hand Installation 18.7 3452.6 5627.5 High Right Hand Installation 18.7 3452.6 5627.5 Eurocopter Pod Compatible Right Hand Installation 18.9 3452.6 5681.0 Maximum Cargo (RH) 135.7 3452.6 468768.7 Low Left Hand Installation 18.7 3452.6 5627.5 High Left Hand Installation 18.7 3452.6 5627.5 Eurocopter Pod Compatible Left Hand Installation 18.9 3452.6 5681.0	Description Weight Longitudinal Late arm mm mmment arm hg mm mment mm Low Right Hand Installation 18.7 3452.6 5627.5 1166.0 High Right Hand Installation 18.7 3452.6 5627.5 1146.3 Eurocopter Pod Compatible Right Hand Installation 18.9 3452.6 5681.0 1212.9 Maximum Cargo (RH) 135.7 3452.6 468768.7 * Low Left Hand Installation 18.7 3452.6 5627.5 -1166.0 High Left Hand Installation 18.7 3452.6 5627.5 -1146.3 Eurocopter Pod Compatible Left Hand Installation 18.9 3452.6 5681.0 -1212.9

 $^{^{\}star}\text{Lateral}$ arm is same as basket configuration. Lateral moment is calculated with lateral arm.

3. Configuration 764 (Medium Basket)

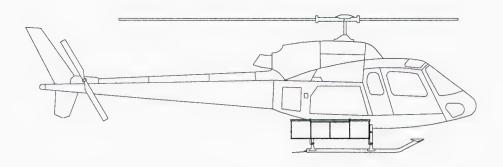
The following weight and balance is for cargo baskets installed in accordance with drawing 76401.



Standard

Description	Weight	Longit	all and		
		Longit	udinal	La	teral
		arm	moment	arm	moment
	lb	in	in-lb	in	in-lb
Low Right Hand Installation	51.4	144.0	7401.5	46.7	2402.5
High Right Hand Installation	51.4	144.0	7401.5	46.0	2362.3
Eurocopter Pod Compatible Right Hand Installation	51.8	143.9	7455.0	48.6	2518.1
Maximum Cargo (RH)	250.0	144.0	36000.0	*	1
Low Left Hand Installation	51.4	144.0	7401.5	-46.7	-2402.5
High Left Hand Installation	51.4	144.0	7401.5	-46.0	-2362.3
Eurocopter Pod Compatible Left Hand Installation	51.8	143.9	7455.0	-48.6	-2518.1
Maximum Cargo (LH)	250.0	144.0	36000.0	*	
	High Right Hand Installation Eurocopter Pod Compatible Right Hand Installation Maximum Cargo (RH) Low Left Hand Installation High Left Hand Installation Eurocopter Pod Compatible Left Hand Installation	Low Right Hand Installation 51.4 High Right Hand Installation 51.4 Eurocopter Pod Compatible Right Hand Installation 51.8 Maximum Cargo (RH) 250.0 Low Left Hand Installation 51.4 High Left Hand Installation 51.4 Eurocopter Pod Compatible Left Hand Installation 51.8	Ib in Ib in Ib In Ib In Ib Ib	Ib in in-Ib	Ib in in-lb in in In In In In In

^{*}Lateral arm is same as basket configuration. Lateral moment is calculated with lateral arm.



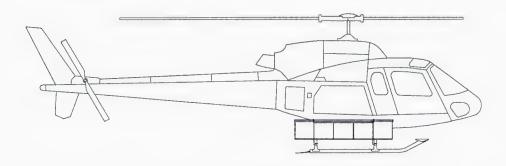
Metric

P/N	Description Weight Longitudinal		itudinal	Lateral		
			arm	moment	arm	moment
		kg	mm	mm-kg	mm	mm-kg
76401-01-01	Low Right Hand Installation	23.3	3657.6	85067.2	1187.2	27612.4
76401-02-01	High Right Hand Installation	23.3	3657.6	85067.2	1167.4	27150.9
76401-03-01	Eurocopter Pod Compatible Right Hand Installation	23.4	3655.5	85681.4	1234.7	28941.1
	Maximum Cargo (RH)	113.1	3657.6	413674.6	*	*
76401-01-02	Low Left Hand Installation	23.3	3657.6	85067.2	-1187.2	-27612.4
76401-02-02	High Left Hand Installation	23.3	3657.6	85067.2	-1167.4	-27150.9
76401-03-02	Eurocopter Pod Compatible Left Hand Installation	23.4	3655.5	85681.4	-1234.7	-28941.1
	Maximum Cargo (LH)	113.1	3657.6	413674.6	w	*
•						

 $^{^{*}\}mbox{Lateral}$ arm is same as basket configuration. Lateral moment is calculated with lateral arm.

4. Configuration 784 (Long Basket).

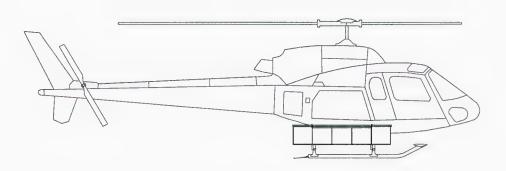
The following weight and balance is for cargo baskets installed in accordance with drawing 78401.



Standard

		Stanuaru				
P/N	Description	Weight	Longit	tudinal	La	teral
			arm	moment	arm	momen
		lb	in	in-lb	in	in-lb
78401-01-01	Low Right Hand Installation	63.9	136.0	8687.5	47.4	3026.8
78401-02-01	High Right Hand Installation	63.9	136.0	8687.5	46.6	2976.6
78401-03-01	Eurocopter Pod Compatible Right Hand Installation	64.3	135.9	8741.0	49.3	3167.4
	Maximum Cargo (RH)	250.0	136.0	34000.0	*	•
78401-01-02	Low Left Hand Installation	63.9	136.0	7401.5	-47.4	-3026.8
78401-02-02	High Left Hand Installation	63.9	136.0	7401.5	-46.6	-2976.6
78401-03-02	Eurocopter Pod Compatible Left Hand Installation	64.3	135.9	7455.0	-49.3	-3167.4
	Maximum Cargo (LH)	250.0	136.0	34000.0	*	

 $^{^{\}ast}\text{Lateral}$ arm is same as basket configuration. Lateral moment is calculated with lateral arm.



Metric

P/N	Description	Weight	Longitudinal		Lateral	
			arm	moment	arm	moment
		kg	mm	mm-kg	mm	mm-kg
78401-01-01	Low Right Hand Installation	28.9	3453.3	99847.5	1203.1	34787.1
78401-02-01	High Right Hand Installation	28.9	3453.3	99847.5	1183.2	34210.6
78401-03-01	Eurocopter Pod Compatible Right Hand Installation	29.1	3452.9	100461.7	1251.2	36403.3
	Maximum Cargo (RH)	113.1	3453.3	390568.2	*	*
78401-01-02	Low Left Hand Installation	28.9	3453.3	99847.5	-1203.1	-34787.1
78401-02-02	High Left Hand Installation	28.9	3453.3	99847.5	-1183.2	-34210.6
78401-03-02	Eurocopter Pod Compatible Left Hand Installation	29.1	3452.9	100461.7	-1251.2	-36403.3
	Maximum Cargo (LH)	113.1	3453.3	390568.2	*	*
	·					

 $^{^*\}mbox{Lateral}$ arm is same as basket configuration. Lateral moment is calculated with lateral arm.

VI INSTALLATION / REMOVAL INSTRUCTIONS

Cargo Baskets

The beams are installed in accordance with drawing 78602 or 78603 as applicable. The basket is installed in accordance with drawing 76401, 77601 or 78401, as applicable. Removal of the basket leaving the beams in place is an approved configuration for flight. Logbook entry indicating installation or removal of basket and which weight and balance amendment is in effect is required when basket is installed or removed.

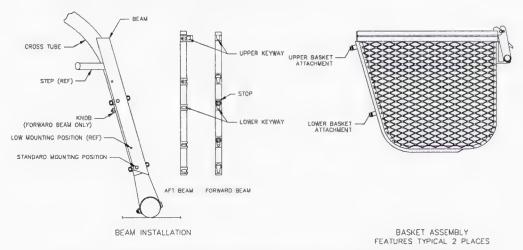


Figure 1 – Basket Attachment Features (Low beam installation shown. Beam attachment features typical for low and high beam installations)

- 5. Installation Refer to Figure 1 and Figure 2.
 - a) Set basket upper aft basket attachment into upper keyway in aft beam. Forward end of basket may rest on floor.
 - Lift basket from forward end, slide lower aft attachment into keyway on aft beam.
 - At forward attachment hoop, lift basket until lower attachment fitting hits stop.
 - d) Push fitting into keyway and slide basket down until locked.

AERO DESIGN LTD.

FMS764.91

- 2. Removal Refer to Figure 1 and Figure 2.
 - a) Pull knob at bottom end of forward beam and lift basket until attachment fittings are free of keyways.
 - b) Rotate basket up until lower aft attachment fitting is free of keyway. Rest forward end of basket on floor.
 - c) Slide basket forward and raise basket until upper aft attachment fitting is free of keyway.

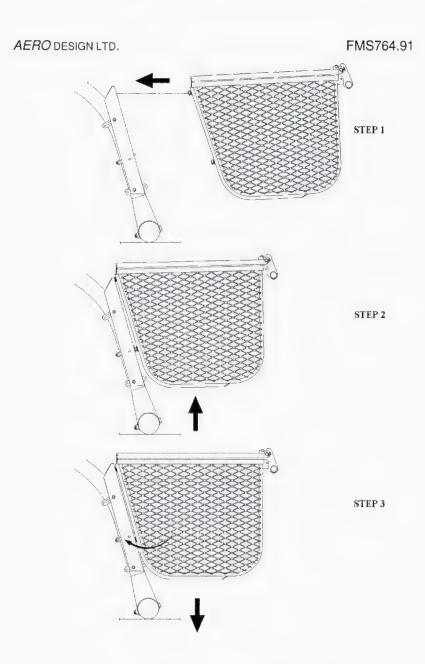


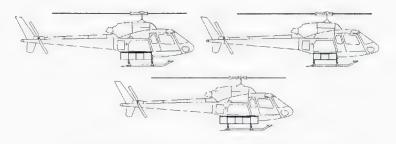
Figure 2 – Basket Attachment Steps (Installation instructions typical for all configurations).

INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA 764.90

EUROCOPTER AS350 & AS355 SERIES

QUICK RELEASE CARGO BASKET

MODELS: 764, 776 AND 784



TCCA Supplemental Type Certificate No. SH08-16 FAA Supplemental Type Certificate No. SR02680NY

Preface

These Instructions for Continued Airworthiness shall be included in the rotorcraft Maintenance Manual when the Quick Release Cargo Basket installed in accordance with AERO Design Ltd. Document Control Lists:

- DCL764-1 (for Installation 76401), Revision 3,
- DCL776-1 (for Installation 77601), Revision 3,
- DCL784-1 (for Installation 78401), Revision 3,
- DCL786-1 (for mounting provision), Revision 3, or later approved revision, is installed.

The information contained herein supplements the information in the basic Maintenance Manual. For Maintenance practices and procedures not contained in these Instructions for Continued Airworthiness refer to the basic Maintenance Manual and its approved supplements.

Revision 3 Date: 12 April, 2010

AERO Design Ltd. Engineering Consultants 2013 – 39th Avenue N.E., Calgary, Alberta T2E 6R7

Phone: (403) 250-8027 Fax: (403) 250-8333 E-Mail: <u>info@aerodesign.ca</u>

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RECORD OF REVISIONS

Revision Number	Issue Date	Date Inserted	Ву
0	25 February 2008		Original Issue
1	24 June, 2009		
2	22 December 2009		
3	12 April 2010		

LIST OF EFFECTIVE PAGES

List of Revisions	Revision 0 (Original Issue) Revision 1 Revision 2 Revision 3	25 February, 2008 24 June, 2009 22 December, 2009 12 April, 2010
	1101101011	

List of Effective Pages

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CHAPTER 0 - INTRODUCTION

0-1 SCOPE

The following Instructions for Continued Airworthiness (ICA) satisfy the requirements of 14 CFR 27.1529, and provide the information necessary to complete the on-going maintenance and inspections required for rotorcraft embodying the Quick Release Cargo Basket as described herein.

0-2 DEFINITIONS AND ABBREVIATIONS

ICA - Instructions for Continued Airworthiness

LH - Left Hand

RH - Right Hand

0-3 DISTRIBUTION

Copies of this ICA and amendments shall be distributed to all known purchasers of the Quick Release Cargo Basket. Requests for a copy may be made in writing to:

AERO Design Ltd. 2013 39th Avenue N.E. Calgary, Alberta T2E 6R7

Fax: 403-250-8333

Email: info@aerodesign.ca

Any changes will be sent to Transport Canada. All changes will be recorded in the Record of Revisions page at the front of this document.

0-4 COMPATIBILITY

Prior to incorporating this modification, the installer shall establish that the inter-relationship between this change and any other modification(s) incorporated will not adversely affect the airworthiness of the helicopter.

0-5 GENERAL DESCRIPTION

The cargo basket installation is a metal mesh basket installed to the side of the helicopter on beams attached to the landing gear cross tubes. The quick release basket allows for the installation and removal of the basket without tools, leaving the mounting beams in place.

The basket itself is made of a steel welded tubing structure, and lined with expanded steel mesh. The basket has a hinged lid with a self-locking handle.

The beams consist of a steel tube bolted to a clamp on the cross-tube. The quick release mechanism is built into the steel tube.

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CHAPTER 4 - AIRWORTHINESS LIMITATIONS

Transport Canada

The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister.

FAA

The Airworthiness Limitations section is FAA approved and specifies maintenance required under Sections 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

No additional airworthiness limitations have been imposed due the installation of the Quick Release Cargo Basket.

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CHAPTER 5 - INSPECTION REQUIREMENTS

5-1 INSPECTION SCHEDULE

Continued airworthiness is contingent upon compliance with the following inspection items. These items shall be completed in conjunction with the rotorcraft Maintenance Inspection schedule, or other approved program, or upon removal and replacement of any component of Quick Release Cargo Basket.

Daily Inspection

- Inspection Area: Basket
 - a) Inspect the basket attachment to the beams for condition and security. Ensure quick release mechanism is completely extended, flush with the outboard surface of the beam.
 - b) Inspect latching of the lid for correct operation. If basket is bent inward the lid will close but may not latch.

300 Hour or Annual Inspection

- 1. Inspection Area: Basket
 - a) Visually inspect tube-to-tube welds and mesh-to-tube welds for cracks, corrosion or other damage.
 - b) Visually inspect basket mesh for damage.
- 2. Inspection Area: Beams

With the basket removed:

- a) Visually inspect beams and clamps attaching basket to the helicopter for cracks, corrosion or other damage.
- b) Visually inspect lugs attaching the basket to the beams for security and damage.
- c) Visually inspect bolts attaching beams to clamps and clamps to cross tubes for condition and security.
- d) Visually inspect peg step on aft beam for crack corrosion or other damage. Inspect grip surface on top of peg for condition.

Special Inspections

- 1. Following a hard landing inspect the Quick Release Cargo Basket installation in accordance with the 300 hour or annual inspection listed above.
- 2. Any joints using a helical thread insert (Helicoil) shall be inspected on assembly in accordance with the procedure for checking self locking nuts and screws specified in the Eurocopter Standard Practices Manual, Section 20.02.05.601

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5-2 DAMAGE LIMITS / REPAIR INSTRUCTIONS

If damage is found in the inspections above, repair in accordance with the instructions below.

Basket

a) Repair Basket in accordance with AC43.13-1B, Chapter 4, Section 5, Welding, as required.

b) Basket is fabricated from the following materials:

Attachment Hoops: 1" square steel tube and/or ½" square steel tube

Lid and Rim: 3/4" square steel tube Frames: 1/2" square steel tube

3/4" 16 ga. (0.040") expanded steel mesh Mesh:

c) Touch up with polyurethane paint as required following repairs.

Steel Beams

DO NOT REPAIR DAMAGE TO BEAMS IF BEYOND THE LIMITS BELOW.

- a) Nicks and/or gouges on any face up to 0.015" deep and 0.125" wide may be dressed out to a smooth contour.
- b) Critical keyway dimensions are shown in Figure 5.1. Attempt to insert 15/32 drill shank into bottom end of keyway. If drill can be inserted, slot is worn beyond limit.

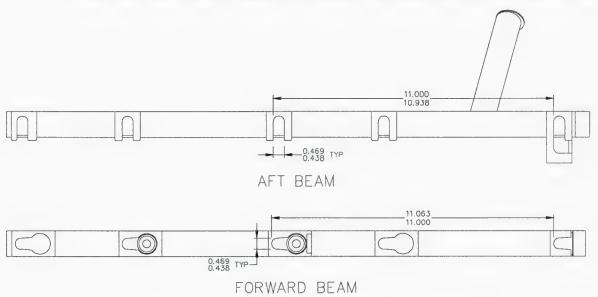


Figure 5.1 - Critical Keyway Dimensions

- c) Touch up with polyurethane paint as required following repairs.
- d) Aft beam only: Grip surface on top of peg step has 1" wide 3M Safetywalk grip tape, or equivalent, on the top surface. Alternatively, it may be painted with Randolph X1567 WingWalk grip paint or equivalent.

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3. Aluminum Clamps

DO NOT REPAIR DAMAGE TO CLAMPS IF BEYOND THE LIMITS BELOW.

- a) Nicks and/or gouges on the top or bottom surface up to 0.060" deep and 0.125" wide may be dressed out to a smooth contour. Refer to Figure 5.2.
- b) Nicks and/or gouges on the outer edge up to 0.030" deep and 0.125" wide may be dressed out to a smooth contour. Refer to Figure 5.2.
- c) Any cracking on any surface is unacceptable.
- d) Touch up with polyurethane paint as required following repairs.

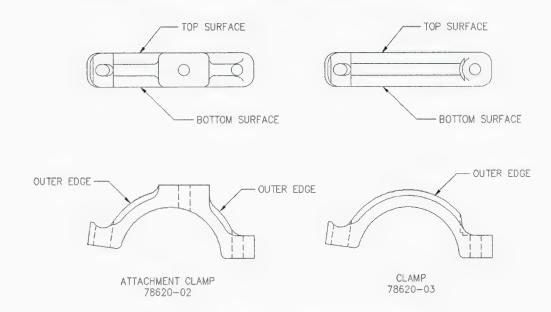


Figure 5.2 – Aluminum Clamps (78620-01 shown, 78621-XX similar)

4. Helical Thread Inserts

Helical thread inserts (Helicoils) found to be damaged shall be repaired in accordance with the Eurocopter Standard Practices Manual, Section 20.03.04.404.

Part numbers:

1/4-28 insert: 3591-4CN375

5-3 PROTECTIVE TREATMENT INFORMATION

1. Beams

The steel tubes are supplied powder coated white. If the powder coat is damaged, touch up with white polyurethane paint.

Aft beam only: the peg step has a 1" wide strip of 3M SafetyWalk grip tape applied to the top surface. If the grip tape is damaged it may be replaced with equivalent grip tape or may be painted with Randolph X1567 WingWalk grip paint.

2. Clamps

The aluminum clamps are supplied painted white. If the paint is damaged, touch up with white polyurethane paint.

3. Cargo Basket

The cargo basket is supplied powder coated white. If the powder coat is damaged, touch up with white polyurethane paint.

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CHAPTER 11 – MARKINGS AND PLACARDS

The following markings and placards are used with the Quick Release Cargo Basket Installation in the locations noted:

a) Located on basket lid:

O QUICK RELEASE BASKET O EUROCOPTER AS350 & AS355 SERIES S/N 77501-01

MAXIMUM PERMISSIBLE LOAD 300 LBS/136 KG

AERO DESIGN LTD.
CALGARY, ALBERTA, CANADA O 403-220-8027

PLACARD FOR 77601 BASKET INSTALLATION

O QUICK RELEASE BASKET O EUROCOPTER AS350 & AS355 SERIES S/N 76401-01

MAXIMUM PERMISSIBLE LOAD 250 LBS/113 KG

AERO DESIGN LTD.

CALGARY, ALBERTA, CANADA 403-250-8027

PLACARD FOR 76401 BASKET INSTALLATION

O QUICK RELEASE BASKET O EUROCOPTER ASSO & 28.55 SERIES 5/N 78401-01

MAXIMUM PERMISSIBLE LOAD 250 LBS/113 KG

AERO DESIGN LTD.

GALGARY, ALBERTIA, CANADA 403-250-6027

PLACARD FOR 78401 BASKET INSTALLATION

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CHAPTER 25 – EQUIPMENT AND FURNISHINGS

SECTION 50 - CARGO COMPARTMENTS

The Quick Release Cargo Basket Installation may be applied to the right or left side of the helicopter.

25-1 BEAMS INSTALLATION

Refer to section 25-6 for part numbers.

The HIGH beam mounting position (configuration 78602-02-XX) is standard and uses the LOWER set of holes in the beams. The LOW beam mounting position (configuration 78602-01-XX) is required if the helicopter is fitted with cargo compartment extenders ("squirrel cheeks"), and uses the UPPER set of holes in the beams.

Installation pictures show LEFT SIDE, HIGH mounted installation.

 Position two (2) Clamp Assemblies 78620-01 around each cross tube. Fasten clamps using one AN4-14A Bolt, two (2) AN960-416 Washers and MS21044N4 Nut through one side of the Clamp Assembly and one FT4F-175H T-Bolt and BH00182A4 Self-Aligning Nut through the other side of the Clamp Assembly. Fully torque AN4-14A bolt, do not tighten T-Bolt.

Note orientation (refer to figure 25.1 thru 25.3):

Forward – Top: Lug Outboard
Forward – Bottom: Lug Inboard
Aft – Top: Lug Inboard
Lug Inboard
Lug Inboard

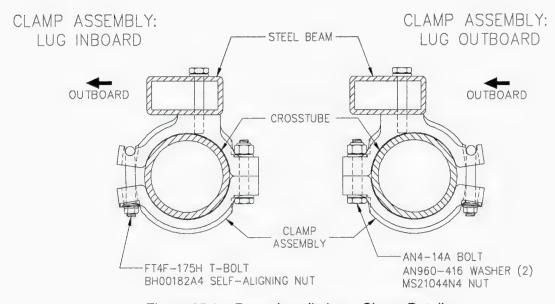


Figure 25.1 – Beam Installation – Clamp Detail

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Figure 25.2 - Aft Cross Tube Clamps

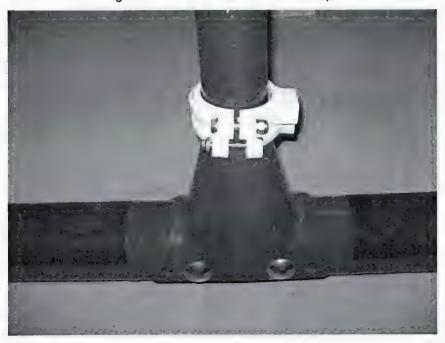


Figure 25.3 – Forward Cross Tube Clamps

2. Attach Forward Beam Assembly to Clamp Assemblies on forward cross tube with two (2) AN4-14A Bolts and two (2) AN960-416 Washers. Locate clamps on LOWER set of holes in beam for HIGH installation, or UPPER set of holes for LOW installation. Do not fully tighten bolts. Position beam so that the bottom clamp is slightly above the weld at the bottom of the cross tube. Tighten clamp bolts enough to prevent slippage on the tube while adjusting installation in following steps.

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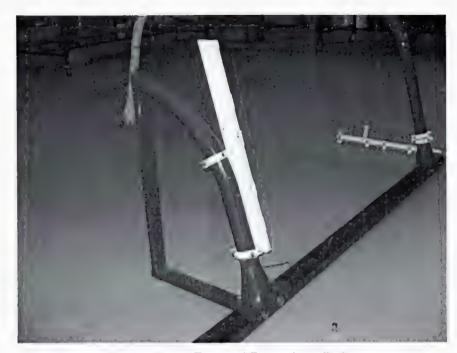


Figure 25.4 – Forward Beam Installation (Looking aft)



Figure 25.4 – Forward Beam Installation (Looking down)

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Figure 25.5 - Forward Beam Installation, Bottom Clamp

3. Attach Aft Beam Assembly to Clamp Assemblies on aft cross tube with two (2) AN4-14A Bolts and two (2) AN960-416 Washers. Locate clamps on LOWER set of holes in beam for HIGH installation, or UPPER set of holes for LOW installation. Do not fully tighten bolts. Position beam so that the bottom clamp is slightly above the weld at the bottom of the cross tube. Tighten clamp bolts enough to prevent slippage on the tube while adjusting installation in following steps.



Figure 25.6 - Aft Beam Installation (Looking aft)

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Figure 25.7 – Aft Beam Installation (Looking down)



Figure 25.8 - Aft Beam Installation, Bottom Clamp

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4. Using a large square or straight edge as a reference, align the forward and aft beams with the cross tubes. Loosen bolts if required to adjust the beam, re-tighten clamp bolts after adjusting.



Figure 25.9 - Beam Alignment (Note left picture is not parallel to cross tube, right picture is correct)

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5. In order to easily snap the basket in and out of the beams, the beams must be correctly aligned. The following steps detail the alignment procedures. Ensure beams are approximately parallel and aligned front to back before starting. For all procedures listed below, set the basket on the beams as described, remove the basket to apply the correction and re-check with the basket after.

a. Beams too close together or too far apart (basket cannot be installed in top slots):

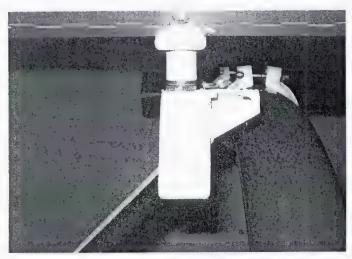
Set upper aft attachment fitting on basket into top keyway in aft beam and slide basket aft. Attempt to insert upper forward fitting into top keyway of forward beam.











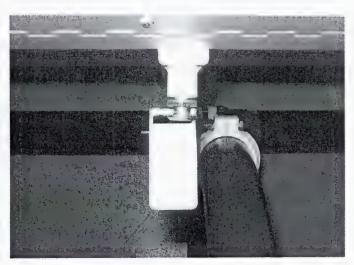


Figure 25.10 - Beam Adjustment, Step 1 - Beams too close together (Looking down, left picture aft beam, right picture forward beam)

The basket attachment fittings should be centred on the beams to allow for some fore/aft movement on the aft beam if required due to landing conditions or changes in weight and balance. Note in Figure 25.10 the aft fitting is bottomed in the aft slot and the forward fitting cannot be inserted. In this case the AFT beam would require shimming.

Using 1/4" commercial stainless steel fender washers, shim the forward or aft beam as required by inserting washer(s) between the beam and both clamps. Only use enough shims to allow basket to enter the TOP slot.

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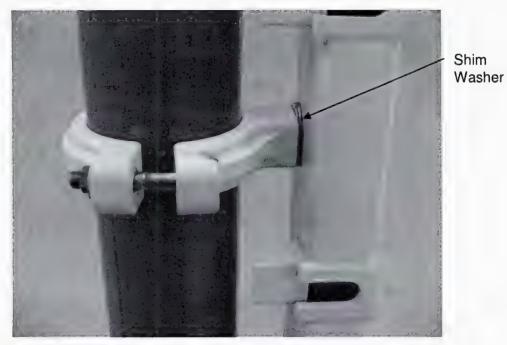


Figure 25.11 - Beam Adjustment, Step 1 - Shim Rear Beam



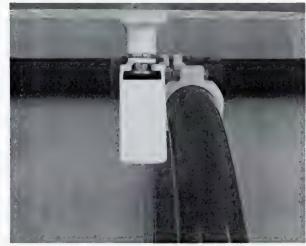


Figure 25.12 – Beam Adjustment, Step 1 – Basket Attachments After Shimming

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b. Basket in top slots, resting with bottom fittings against beams (not in keyways), forward fitting does not line up with keyway (fore/aft):





Figure 25.13 – Basket Adjustment Step 2 – Forward Fitting Out of Alignment (Left picture is looking aft, right picture is looking forward)

The beams are not at the same height. Raise or lower the aft beam along the aft cross tube until the bottom fittings on the basket are aligned with both keyways.



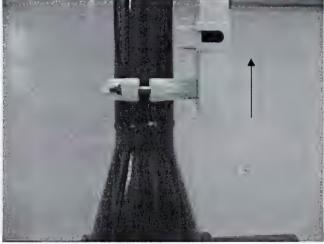


Figure 25.14 – Basket Adjustment Step 2 – Forward Fitting Aligned (Aft beam moved up to align forward fitting with keyway)

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c. Basket in top slots, resting with bottom fittings against beams, bottom aft fitting bottoms out in keyway:

The landing gear cross tubes are not parallel. Using 1/4" commercial stainless steel fender washers, shim the top or bottom (as required) to align the bottom fitting on the basket with the keyway.

d. Basket in top slots, resting with bottom fitting against beams, bottom fitting is away from the surface of the forward beam (outboard):

The beams are not parallel. Adjust the forward beam up or down the forward cross tube until both bottom fittings sit flat on the beams.

e. Basket in all keyways, does not slide smoothly in and out of forward beam:

Opposite attachment fittings on the basket (top front and bottom aft or bottom front and top aft) may be shimmed out using a maximum of two (2) additional AN960-616 washers to allow the basket to slide into the keyways without twisting.

6. Bolts attaching beams to clamps (AN4-14A) that have been shimmed require longer bolts. There must be at least 0.38" of thread protruding with shims in place.

1 washer – AN4-14A bolt (no change)

2-3 washers - AN4-15A bolt

4-5 washers - AN4-16A bolt

Shimming in excess of 5 washers may indicate incorrect alignment in step 5. Confirm corrective actions taken, and if shims are still required, contact AERO Design Ltd. for further instructions.

7. Torque all 1/4" fasteners (12 places) to 30-40 inch-pounds. Note: A gap will remain on the side of the clamp assembly with the T-bolt as shown in Figure 25.1.

25-2 EUROCOPTER POD COMPATIBLE BEAMS INSTALLATION

A helicopter that is fitted with Eurocopter Extended Cargo Compartment ("Squirrel Cheeks") requires different Clamp Assemblies as listed in section 25-6, (configuration 78603-01-XX). Installation procedure is the same as listed in Section 25-1, with the beams mounted in the LOW position.

Ensure Clamp Assemblies are correct for the side of the helicopter the basket is to be installed on. The beam mounting lug is on the BOTTOM of the clamp and points AFT. The forward top clamp is different than the other three clamps.

25-3 BEAMS REMOVAL

Refer to Figure 25.1.

- 1. Remove Cargo Basket. Refer to section 25-5.
- 2. Remove fasteners securing clamp assemblies to the forward cross-tube. Remove Beam Assembly with clamps.
- 3. Remove fasteners securing clamp assemblies to the aft cross-tube. Remove Beam Assembly with clamps.

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25-4 BASKET INSTALLATION

Refer to Figure 25.15 and Figure 25.16. Refer to section 25-6 for part numbers.

- 1. Set basket upper aft attachment into upper keyway in aft beam. Forward end of basket may rest on floor.
- 2. Lift basket from forward end, slide lower aft attachment into keyway on aft beam.
- 3. At forward attachment hoop, lift basket until lower attachment fitting hits stop.
- 4. Push fitting into keyway and slide basket down until locked.

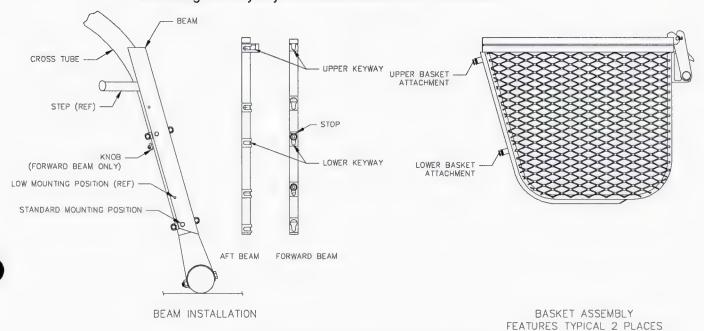


Figure 25.15 – Basket Attachment Features

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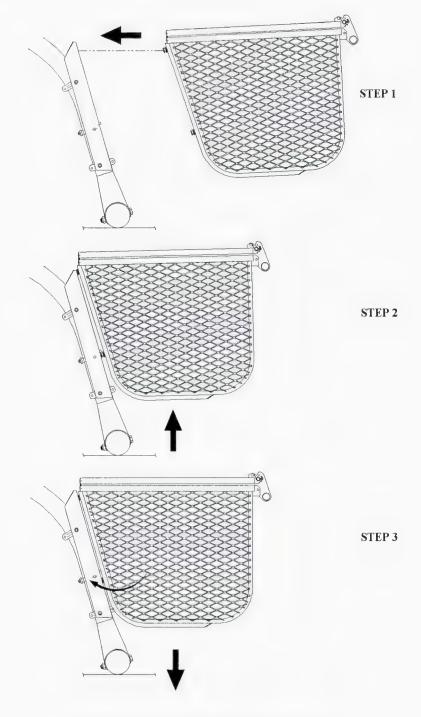


Figure 25.16 - Basket Attachment Steps

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25-5 BASKET REMOVAL

Refer to Figure 25.15 and Figure 25.16.

1. Pull knob at bottom end of forward beam and lift basket until attachment fittings are free of keyways on forward beam.

- 2. Rotate basket up until lower aft attachment fitting is free of keyway. Rest forward end of basket on floor.
- 3. Slide basket forward and raise basket until upper aft attachment fitting is free of keyway.

25-6 BILL OF MATERIALS

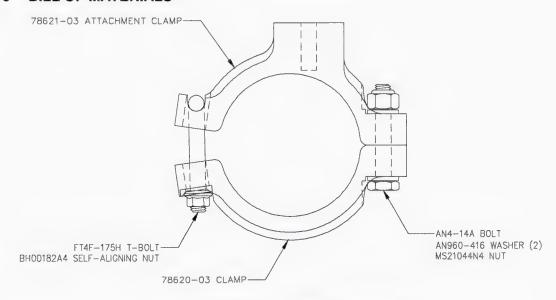
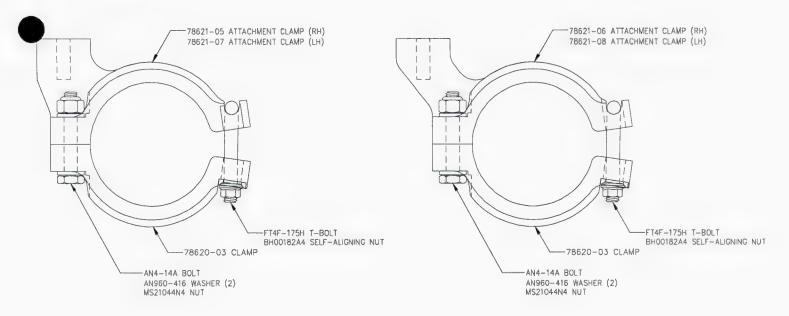


Figure 25.17 - Clamp Assembly

CLAMP ASSEMBLY (Standard)

Qty.	Part Number	Description
	78620-01	Clamp Assembly
. 1	78620-02	Attachment Clamp (with mounting pad)
. 1	78620-03	Clamp (no mounting pad)
. 1	AN4-14A	Bolt
. 2	AN960-416	Washer
. 1	MS21044N4	Nut
. 1	FT4F-175H	T-Bolt
. 1	BH00182A4	Self Aligning Nut

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FORWARD TOP ONLY

Figure 25.18 – Eurocopter Pod Compatible Clamps (Right Hand shown, Left Hand opposite)

CLAMP ASSEMBLY (Eurocopter Pod Compatible)

Qty.	Part Number	Description
	78621-01	Right Hand Clamp Assembly
. 1	78621-05	Attachment Clamp
	70001 00	Dight Hand Fawyard Top Clamp Assembly
	78621-02	Right Hand, Forward Top, Clamp Assembly
. 1	78621-06	Attachment Clamp
	78621-03	Left Hand Clamp Assembly
. 1	78621-07	Attachment Clamp
	78621-04	Left Hand, Forward Top Clamp Assembly
. 1	78621-08	Attachment Clamp
. 1	78621-09	Clamp (no mounting pad)
. 1	AN4-14A	Bolt
. 2	AN960-416	Washer
. 1	MS21044N4	Nut
. 1	FT4F-175H	T-Bolt
. 1	BH00182A4	Self Aligning Nut

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PROVISIONS INSTALLATION

LOW CONFIGURATION

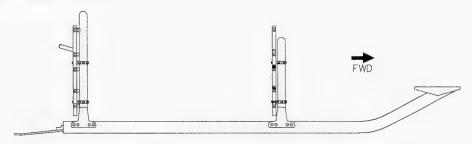


Figure 25.19 - Low Mounted Provisions Installation

Qty.	Part Number	Description
1	78602-01-01	Provisions Installation- RH Low
1	78602-01-02	Provisions Installation- LH Low
. 4	78620-01	Clamp Assembly
. 1	78633-01-01	Aft Beam Assembly (RH)
. 1	78633-01-02	Aft Beam Assembly (LH)
. 1	78634-01-00	Forward Beam Assembly
. 4	AN4-14A	Bolt
. 4	AN960-416	Washer
. A/R		Commercial Stainless Steel Fender Washer

HIGH CONFIGURATION

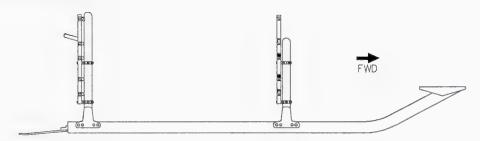


Figure 25.20 – High Mounted Provisions Installation

Qty.	Part Number	Description
1	78602-02-01	Provisions Installation – RH High
1	78602-02-02	Provisions Installation – LH High
. 4	78620-01	Clamp Assembly
. 1	78633-01-01	Aft Beam Assembly (RH)
. 1	78633-01-02	Aft Beam Assembly (LH)
. 1	78634-01-00	Forward Beam Assembly
. 4	AN4-14A	Bolt
. 4	AN960-416	Washer
. A/R		Commercial Stainless Steel Fender Washer

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EUROCOPTER POD COMPATIBLE CONFIGURATION

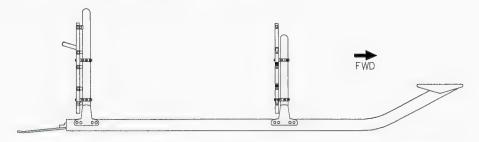


Figure 25.21 – Eurocopter Pod Compatible Provisions Installation

Qty.	Part Number	Description			
1	78603-01-01	Provisions Installation - RH Eurocopter Pod Compatible			
1	78603-01-02	Provisions Installation – LH Eurocopter Pod Compatible			
. 3	78621-01	Clamp Assembly (RH)			
. 3	78621-03	Clamp Assembly (LH)			
. 1	78621-02	Clamp Assembly (RH – Forward Top)			
. 1	78621-04	Clamp Assembly (LH – Forward Top)			
. 1	78633-01-01	Aft Beam Assembly (RH)			
. 1	78633-01-02	Aft Beam Assembly (LH)			
. 1	78634-01-00	Forward Beam Assembly			
. 4	AN4-14A	Bolt			
. 4	AN960-416	Washer			
. A/R		Commercial Stainless Steel Fender Washer			

SHORT BASKET - MODEL 776

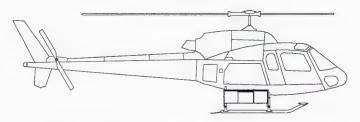


Figure 25.22 - Quick Release Cargo Basket Configuration 77601 (Short Basket)

Qty.	Part Number	Description
1	77601-01-XX	Low Short Basket Installation
. 1	78602-01-XX	Low Provisions Installation
.1	77610-01	Short Basket Assembly
1	77601-02-XX	High Short Basket Installation
. 1	78602-02-XX	High Provisions Installation
. 1	77610-01	Short Basket Assembly
1	77601-03-XX	Eurocopter Pod Compatible Short Basket Installation
. 1	78603-01-XX	Eurocopter Pod Compatible Provisions Installation
. 1	77610-01	Short Basket Assembly

Note: -XX indicates side. Right side -01, left side -02

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MEDIUM BASKET - MODEL 764

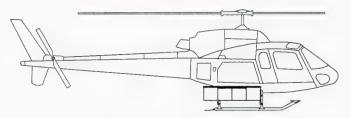


Figure 25.23 – Quick Release Cargo Basket Configuration 76401 (Medium Basket)

Qty.	Part Number	Description		
1	76401-01-XX	Low Medium Basket Installation		
. 1	78602-01-XX	Low Provisions Installation		
. 1	76410-01-XX	Medium Basket Assembly		
1	76401-02-XX	High Medium Basket Installation		
. 1	78602-02-XX	High Provisions Installation		
. 1	76410-01-XX	Medium Basket Assembly		
1	76401-03-XX	Eurocopter Pod Compatible Medium Basket Installation		
. 1	78603-01-XX	Eurocopter Pod Compatible Provisions Installation		
. 1	76410-01-XX	Medium Basket Assembly		

Note: -XX indicates side. Right side -01, left side -02

LONG BASKET - MODEL 78401

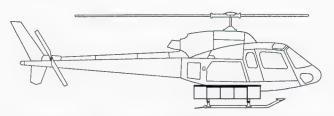


Figure 25.24 – Quick Release Cargo Basket: Configuration 78401 (Long Basket)

Qty.	Part Number	Description
1	78401-01-XX	Low Long Basket Installation
. 1	78602-01-XX	Low Provisions Installation
. 1	78410-01	Long Basket Assembly
1	78401-02-XX	High Long Basket Installation
. 1	78602-02-XX	High Provisions Installation
. 1	78410-01	Long Basket Assembly
1	78401-03-XX	Eurocopter Pod Compatible Long Basket Installation
. 1	78603-01-XX	Eurocopter Pod Compatible Provisions Installation
. 1	78410-01	Long Basket Assembly

Note: -XX indicates side. Right side -01, left side -02

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25-6 WEIGHT AND BALANCE

This section contains weight and balance information for cargo basket models 764, 776 and 784 and attachment provisions 786. Each cargo basket model has multiple configurations. Refer to the weight and balance information applicable to basket model and configuration installed.

Determine which mounting position (Low, High, or Eurocopter Pod Compatible) and length (Short, Medium, or Long) and locate on chart.

Two weight and balance configurations are required: Attachment Provisions only; and Basket Installed. The basket configurations INCLUDE the provisions.

			St	tandard Unit	S		I	1	Metric Units		
		Weight	Longite	udinal	Late	eral	Weight	Longit	udinal	Late	ral
Configuration			Arm	Moment	Arm	Moment		Arm	Moment	Arm	Moment
		lb	in	in-lb	in	in-lb	kg	mm	mm-kg	mm	mm-kg
Mounting Provisions Installation Right Hand	Part Number										
Low	78602-01-01	6.4	135.6	867.5	37.2	238.0	2.9	3443.0	9970.6	944.6	2735.4
High	78602-02-01	6.4	135.6	867.5	36.5	233.8	2.9	3443.0	9970.6	928.1	2687.6
Eurocopter Pod Compatible	78603-01-01	6.8	135.4	921.0	38.8	263.6	3.1	3440.1	10 584.8	984.6	3029.6
Left Hand											
Low	78602-01-02	6.4	135.6	867.5	-37.2	-238.0	2.9	3443.0	9970.6	-944.6	-2735.4
High	78602-02-02	6.4	135.6	867.5	-36.5	-233.8	2.9	3443.0	9970.6	-928.1	-2687.6
Eurocopter Pod Compatible	78603-01-02	6.8	135.4	921.0	-38.8	-263.6	3.1	3440.1	10584.8	-984.6	-3029.6
Short Basket Installation Right Hand									***************************************		
Low	77601-01-01	41.4	135.9	5627.5	45.9	1900.5	18.7	3452.6	64678.3	1166.0	21842.9
High	77601-01-01	41.4	135.9	5627.5	45.1	1868.3	18.7	3452.6	64678.3	1146.3	21473.2
Eurocopter Pod Compatible	77601-02-01	41.8	135.9	5681.0	47.8	1996.1	18.9	3452.1	65292.5	1212.9	22941.6
Left Hand											
Low	77601-01-02	41.4	135.9	5627.5	-45.9	-1900.5	18.7	3452.6	64678.3	-1166.0	-21842.9
High	77601-02-02	41.4	135.9	5627.5	-45.1	-1868.3	18.7	3452.6	64678.3	-1146.3	-21473.2
Eurocopter Pod Compatible	77601-03-02	41.8	135.9	5681.0	-47.8	1996.1	18.9	3452.1	65292.5	-1212.9	-22941.6
Medium Basket Installation											
Right Hand											
Low	76401-01-01	51.4	144.0	7401.5	46.7	2402.5	23.3	3657.6	85067.2	1187.2	27612.4
High	76401-02-01	51.4	144.0	7401.5	46.0	2362.3	23.3	3657.6	85067.2	1167.4	27150.9
Eurocopter Pod Compatible	76401-03-01	51.8	143.9	7455.0	48.6	2518.1	23.4	3655.5	85681.4	1234.7	28941.1
Left Hand											
Low	76401-01-02	51.4	144.0	7401.5	-46.7	-2402.5	23.3	3657.6	85067.2	-1187.2	-27612.4
High	76401-02-02	51.4	144.0	7401.5	-46.0	-2362.3	23.3	3657.6	85067.2	-1167.4	-27150.9
Eurocopter Pod Compatible	76401-03-02	51.8	143.9	7455.0	-48.6	-2518.1	23.4	3655.5	85681.4	-1234.7	-28941.1
Long Basket Installation Right Hand											·- ·- · · · · · · · · · · · · · · · · ·
Low	78401-01-01	63.9	136.0	8687.5	47.4	3026.8	28.9	3453.3	99847.5	1203.1	34787.1
High	78401-02-01	63.9	136.0	8687.5	46.6	2976.6	28.9	3453.3	99847.5	1183.2	34210.6
Eurocopter Pod Compatible	78401-03-01	64.3	135.9	8741.0	49.3	3167.4	29.1	3452.9	100461.7	1251.2	36403.0
Left Hand											
Low	78401-01-02	63.9	136.0	8687.5	-47.4	-3026.8	28.9	3453.3	99847.5	-1203.1	-34787.1
High	78401-02-02	63.9	136.0	8687.5	-46.6	-2976.6	28.9	3453.3	99847.5	-1183.2	-34210.6
Eurocopter Pod Compatible	78401-03-02	64.3	135.9	8741.0	-49.3	-3167.4	29.1	3452.9	100461.7	-1251.2	-36403.0

Table 25.1 - Weight and Balance

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OPTIONS. The following weight and balance is for optional configurations of the basket.

Standard Units

	- Cuildui I					
P/N	Description	Weight	Longitudinal		Lateral	
			arm	moment	arm	moment
		lb	in	in-lb	in	in-lb
70406-01	Front End Cutout	-0.3	107.8	-32.3	*	*
70405-01	Lid Step (Short Basket)	4.0	136.0	544.0	*	*
70405-01	Lid Step (Medium Basket)	5.8	145.2	842.2	*	*
70405-01	Lid Step (Long Basket)	7.7	136.0	1047.2	*	*
70408-01	Hangar Wheel (Short/Medium Basket)	0.8	110.0	88.0	*	*
70408-01	Hangar Wheel (Long Basket)	0.8	92.0	73.6	*	*

Metric Units

P/N	Description	Weight	Long	gitudinal	Lateral		
			arm	Moment	arm	moment	
		kg	mm	mm-kg	mm	mm-kg	
70406-01	Front End Cutout	-0.1	2730.5	-273.1	*	*	
70405-01	Lid Step (Short Basket)	1.8	3453.3	6215.9	*	*	
70405-01	Lid Step (Medium Basket)	2.6	3688.1	9589.1	*	*	
70405-01	Lid Step (Long Basket)	3.5	3453.3	12086.6	*	*	
70408-01	Hangar Wheel (Short/Medium Basket)	0.4	2794.0	1117.6	*	*	
70408-01	Hangar Wheel (Long Basket)	0.4	2336.8	934.7	*	*	

Table 25.2 - Options Weight and Balance

25-7 STRUCTURAL FASTENER DATA

Refer to Eurocopter Standard Practices Manual for torque values not listed in this ICA.

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^{*}Note: Lateral arm is the same as the basket configuration. Lateral moment is calculated with the lateral arm.



Department of Transport

Supplemental Type Certificate

This approval is issued to:

Number: SH08-16

Aero Design Ltd.

Issue No.: 2

2013 39th Avenue North East

Approval Date: April 11, 2008

Calgary, Alberta

Issue Date: March 22, 2010

Canada T2E 6R7

Responsible Office:

Prairie and Northern

Aircraft/Engine Type or Model:

EUROCOPTER AS 350 B, AS 350 B1, AS 350 B2, AS 350 B3,

AS 350 BA, AS 350 D, AS 350 D1,

EUROCOPTER FRANCE AS 355 E, AS 355 F, AS 355 F1, AS

355 F2, AS 355 N, AS 355 NP

Canadian Type Certificate or Equivalent:

H-83, H-87

Description of Type Design Change:

Installation of External Attachment Provisions and Cargo

Basket.

Installation/Operating Data, Required Equipment and Limitations:

Configuration A – External Attachment Provisions Only:

Installation of External Attachment Provisions to be completed in accordance with Transport Canada approved, AERO Design Ltd. Document Control List, DCL786-1, Revision 2, dated 01 February 2010, or later approved revision.

External Attachment Provisions installed in accordance with DCL786-1 may remain installed if the basket installation is removed.

Configuration B - External Cargo Basket (Short Basket):

Installation of Configuration A, External Attachment Provisions, is a prerequisite for installation of Configuration B, External Cargo Basket Installation. Installation of Quick Release Cargo Basket to be completed in accordance with Transport Canada approved, AERO Design Ltd. Document Control List, DCL776-1, Revision 2, dated 01 February 2010, or later approved revision.

...See Continuation Sheet

Conditions: This approval is only applicable to the type/model of aeronautical product specified therein. Prior to incorporating this modification, the installer shall establish that the interrelationship between this change and any other modification(s) incorporated **will not** adversely affect the airworthiness of the modified product.



D.S. Austen For Minister of Transport



DESIGN APPROVAL DOCUMENT TRANSFER

Transfer of this design approval document requires the prior approval of the Minister and the reissue of this document in the name of the transferee.

The reissue of this design approval document in the name of the transferee will be contingent on the holder and the transferee fulfilling their responsibilities as described in section 521.357 of the Canadian Aviation Regulations.

TRANSFERT DU DOCUMENT D'APPROBATION DE LA CONCEPTION

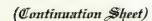
L'approbation préalable du ministre est exigée en vue d'un transfert de ce document d'approbation de la conception et la réédition de ce document au nom du cessionnaire.

La réédition de ce document d'approbation de la conception au nom du cessionnaire est conditionnelle à la satisfaction des exigences et des responsabilités, du titulaire et du cessionnaire, décrites dans l'article 521.357 du Règlement de l'aviation canadien.

I have reviewed the above requirements and recognize that until the above requirements are met the certificate and all its privileges and obligations will not be transferred.

J'ai examiné les conditions susmentionnées et je comprends que le transfert du certificat et des privilèges et des obligations s'y rattachant ne sera pas effectué tant que ces conditions n'auront pas été respectées.

Signature of holder/signature du titulaire	date/date
Signature of noider/signature du titulaire	uale/uale





Number: SH08-16 Issue 2

NOTE: THIS ADDENDUM SHALL REMAIN PART OF THE CERTIFICATE REFERRED TO THEREIN.

Configuration C – External Cargo Basket (Short Basket – Alternate):

-Removed-

Configuration D - External Cargo Basket (Medium Basket):

Installation of Configuration A, External Attachment Provisions, is a prerequisite for installation of Configuration D, External Cargo Basket Installation. Installation of Quick Release Cargo Basket to be completed in accordance with Transport Canada approved, AERO Design Ltd. Document Control List, DCL764-1, Revision 2, dated 01 February 2010, or later approved revision.

Configuration E - External Cargo Basket (Long Basket)

Installation of Configuration A, External Attachment Provisions, is a prerequisite for installation of Configuration E, External Cargo Basket Installation. Installation of Quick Release Cargo Basket to be completed in accordance with Transport Canada approved, AERO Design Ltd. Document Control List, DCL784-1, Revision 2, dated 01 February 2010, or later approved revision.

Configuration F - External Cargo Basket (Long Basket - Alternate) -Removed-

Cargo Basket Modifications:

Modifications to the Cargo Basket configurations are eligible in accordance with Transport Canada approved, AERO Design Ltd., Document Control List DCL704, Revision 2, dated 19 March 2008, or later approved revision. Eligibility limitations are noted on the drawings.

Data Pertinent to All Configurations:

Transport Canada approved, AERO Design Ltd. Flight Manual Supplement FMS764-91, Revision 1, dated 29 January 2010, or later approved revision is required with this installation.

Transport Canada accepted, AERO Design Ltd. Instructions for Continued Airworthiness ICA764-90, Revision 2, dated 22 December 2009, or later accepted revision is required with this installation.

Basis of certification remains as defined in the applicable Type Certificate Data Sheets.

End -

AS350 & AS355 SERIES HELICOPTERS

ROTORCRAFT FLIGHT MANUAL SUPPLEMENT

for the

INSTALLATION of the AERO DESIGN QUICK RELEASE CARGO BASKET AND/OR QUICK RELEASE MAINTENANCE STEP

CARGO BASKET MODELS: 76401, 77601, 78401

TCCA Supplemental Type Certificate No. SH08-16 FAA Supplemental Type Certificate No. SR02680NY

Sections I, II, III and IV of this document comprise the Transport Canada Approved sections of this Flight Manual Supplement. Compliance with Section I, Limitations, is mandatory. Section V and any subsequent sections if present are Unapproved and are provided for information only.

The information and data contained in this Flight Manual Supplement supersede or supplement that contained in the basic Approved Flight Manual for the Eurocopter AS350 and AS355 Series Helicopters when fitted with the Quick Release Cargo Basket Installation and/or Quick Release Maintenance Step Installation. For limitations, procedures and performance not listed in this Flight Manual Supplement refer to the Approved Flight Manual and other approved Flight Manual Supplements.

Transport Transports
Canada Canada

AIRCRAFF CERTIFICATION
DIVISION

APPROVED

By D. S. Quister

Approval Date 10-03-22

YY MM-DD

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TRANSPORT CANADA APPROVED

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1	Limitations	3
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IV	Performance	3
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Record of Revisions

Revision	Issue Date	Pages Revised	Date Inserted	Ву
0	25 Feb, 2008	None		
1	29 Jan, 2010	All		

I LIMITATIONS

- The maximum load in the AERO Design Ltd. Quick Release Cargo Basket Models 764 and 784 is 250 lb. (113 kg). The maximum load in the AERO Design Ltd. Quick Release Cargo Basket Model 776 is 300 lb. (135.7 kg).
- Only one basket may be installed on the helicopter, on the right or left side.
- Flight operations limited to VFR conditions with AERO Design Ltd. Quick Release Cargo Basket installed.
- 4. V_{NE} is unchanged from the basic rotorcraft.
- 5. AS355NP only: For Category A operations, the basket must be removed. Mounting provisions may be left in place.

II NORMAL PROCEDURES

- 1. Pre-flight inspections:
 - a) Ensure that all cargo stored in the cargo basket is properly tied down and secured for flight.
 - b) Ensure that the lid of cargo basket is closed and secured.
 - c) Ensure the basket is locked in postion on the beams. Pull up on the forward and aft end of the basket to check.

CAUTION

It is possible to exceed the lateral centre of gravity limits of the rotorcraft under some loading conditions. Pilots must ensure that lateral C of G is within limits when loading the basket.

III EMERGENCY PROCEDURES

No change from basic Approved Flight Manual.

IV PERFORMANCE

- Cruise performance and range will be reduced by approximately 8 percent with the Cargo Basket Installed.
- 2. AEO climb performance will be reduced by up to 150 fpm.

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V WEIGHT AND BALANCE

This section contains weight and balance information for cargo basket models 76401, 77601, and 78401. Each model has multiple configurations. Refer to the weight and balance information applicable to model and configuration installed.

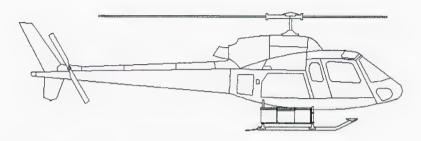
Weight and balance is for Cargo Basket only. Mounting beams are not included since they should have been included in the basic rotorcraft weight and balance at time of initial installation.

Longitudinal and Lateral moment arms for Cargo are given only for the center of the Cargo Basket. Due to the length of the basket, some loading arrangements may require that actual moment arms be measured, to determine the correct moments about the center of gravity.

CAUTION:

It is possible to exceed lateral CG limits in some configurations.

 MODEL 77601 (Short Basket). The following weight and balance is for the cargo basket installed in accordance with drawing 77601.



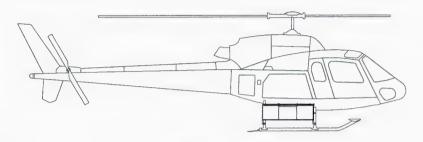
A) Configuration 77601-01 (Short Basket, Low mounted)

Standard

		Otalidai				
P/N	Description	Weight	Longitudinal		Lateral	
			arm	moment	arm	moment
		lb	in	in-lb	in	in-lb
77610-01	Basket (RH)	35.0	135.7	4749.5	48.1	1683.5
	Maximum Cargo (RH)	300.0	135.7	40710.0	48.1	14430.0
77610-01	Basket (LH)	35.0	135.7	4749.5	-48.1	-1683.5
	Maximum Cargo (LH)	300.0	135.7	40710.0	-48.1	-14430.0

		Motrio				
P/N	Description	Weight	Longitudinal		Lateral	
			arm	moment	arm	moment
		kg	mm	mm-kg	mm_	mm-kg
77610-01	Basket (RH)	15.8	3446.8	54587.0	1221.7	19348.8
	Maximum Cargo (RH)	135.7	3446.8	467730.8	1221.7	165784.7
77610-01	Basket (LH)	15.8	3446.8	54587.0	-1221.7	-19348.8
	Maximum Cargo (LH)	135.7	3446.8	467730.8	-1221.7	-165784.7

FMS764.91



B) Configuration 77601-03 (Short Basket, Mid mounted)

Standard

P/N	Description	Weight	Longi	tudinal	Lateral				
			arm	moment	arm	moment			
		lb	in	in-lb	in	in-lb			
77610-01	Basket (RH)	35.0	135.7	4749.5	46.5	1627.5			
	Maximum Cargo (RH)	300.0	135.7	40710.0	46.5	13950.0			
77610-01	Basket (LH)	35.0	135.7	4749.5	-46.5	-1627.5			
	Maximum Cargo (LH)	300.0	135.7	40710.0	-46.5	-13950.0			

P/N	Description	Weight Longitudinal Lateral		Longitudinal		teral
			arm	moment	arm	moment
		kg	mm	mm-kg	mm	mm-kg
77610-01	Basket (RH)	15.8	3446.8	54587.0	1181.1	18705.2
	Maximum Cargo (RH)	135.7	3446.8	467730.8	1181.1	160275.3
77610-01	Basket (LH)	15.8	3446.8	54587.0	-1181.1	-18705.2
	Maximum Cargo (LH)	135.7	3446.8	467730.8	-1181.1	-160275.3

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C) Configuration 77601-02 (Short Basket, High mounted)

Standard

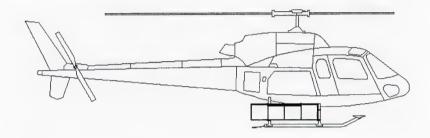
		Stanuaru	·				
P/N	Description	Weight	Longitudinal		Lat	Lateral	
			arm	moment	arm	moment	
		lb	in	in-lb	in	in-lb	
77610-01	Basket (RH)	35.0	135.7	4749.5	45.6	1596.0	
	Maximum Cargo (RH)	300.0	135.7	40710.0	45.6	13680.0	
77610-01	Basket (LH)	35.0	135.7	4749.5	-45.6	-1596.0	
	Maximum Cargo (LH)	300.0	135.7	40710.0	-45.6	-13680.0	

Matric

Metric									
P/N	Description	Weight	Longitudinal		Lateral				
			arm	moment	arm	moment			
		kg	mm	mm-kg	mm	mm-kg			
77610-01	Basket (RH)	15.8	3446.8	54587.0	1158.2	18343.2			
	Maximum Cargo (RH)	135.7	3446.8	467730.8	1158.2	157167.7			
77610-01	Basket (LH)	15.8	3446.8	54587.0	-1158.2	-18343.2			
	Maximum Cargo (LH)	135.7	3446.8	467730.8	-1158.2	-157167.7			

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MODEL 76401 (Medium Basket). The following weight and balance is for the cargo basket installed in accordance with drawing 76401.



A) Configuration 76401-01 (Medium Basket, Low Mounted)

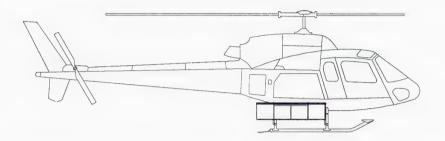
SI	a	nd	a	ro

		Ottaliaali				
P/N	Description	Weight	Longitudinal		Lateral	
			arm	moment	arm	moment
		lb	in	in-lb	in	in-lb
76410- 01-01	Basket (RH)	45.0	144.9	6520.5	48.6	2187.0
	Maximum Cargo (RH)	250.0	144.9	36225.0	48.6	12150.0
76410- 01-02	Basket (LH)	45.0	144.9	6520.5	-48.6	-2187.0
	Maximum Cargo (LH)	250.0	144.9	36225.0	-48.6	-12150.0

Metric

P/N	Description	Weight	Longitudinal		Lateral	
			arm	moment '	arm	moment
		kg	mm	mm-kg	mm	mm-kg
76410- 01-01	Basket (RH)	20.4	3680.5	74941.5	1234.4	25135.7
	Maximum Cargo (RH)	113.1	3680.5	416264.6	1234.4	139610.6
76410- 01-02	Basket (LH)	20.4	3680.5	74941.5	-1234.4	-25135.7
	Maximum Cargo (LH)	113.1	3680.5	416264.6	-1234.4	-139610.6

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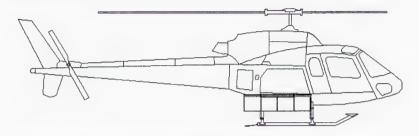
B) Configuration 76401-03 (Medium Basket, Mid Mounted)

Standard

o tan a a								
P/N	Description	Weight Longitudinal		Lateral				
			arm	moment	arm	moment		
		lb	in	in-lb	in	in-lb		
76410- 01-01	Basket (RH)	45.0	144.9	6520.5	47.0	2115.0		
	Maximum Cargo (RH)	250.0	144.9	36225.0	47.0	11750.0		
76410- 01-02	Basket (LH)	45.0	144.9	6520.5	-47.0	-2115.0		
,	Maximum Cargo (LH)	250.0	144.9	36225.0	-47.0	-11750.0		

		Wictiro				
P/N	Description	Weight	Longitudinal		Lateral	
			arm	moment	arm	moment
		kg	mm	mm-kg	mm	mm-kg
76410- 01-01	Basket (RH)	20.4	3680.5	74941.5	1193.8	24308.1
	Maximum Cargo (RH)	113.1	3680.5	416264.6	1193.8	135018.8
76410- 01-02	Basket (LH)	20.4	3680.5	74941.5	-1193.8	-24308.1
	Maximum Cargo (LH)	113.1	3680.5	416264.6	-1193.8	-135018.8

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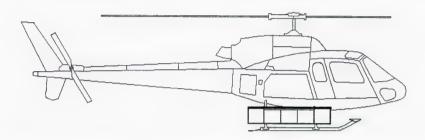
C) Configuration 76401-02 (Medium Basket, High Mounted)

Standard

	and the second s					
P/N	Description	Weight	Longitudinal		Lateral	
			arm	moment	arm	moment
		lb	in	in-lb	in	in-lb
76410- 01-01	Basket (RH)	45.0	144.9	6520.5	46.1	2074.5
	Maximum Cargo (RH)	250.0	144.9	36225.0	46.1	11525.0
76410- 01-02	Basket (LH)	45.0	144.9	6520.5	-46.1	-2074.5
	Maximum Cargo (LH)	250.0	144.9	36225.0	-46.3	-11525.0

		11.010				
P/N	Description	Weight	Longitudinal		Lateral	
			arm	moment	arm	moment
		kg	mm	mm-kg	mm	mm-kg
76410- 01-01	Basket (RH)	20.4	3680.5	74941.5	1170.9	23842.7
	Maximum Cargo (RH)	113.1	3680.5	416264.6	1170.9	132428.8
76410- 01-02	Basket (LH)	20.4	3680.5	74941.5	-1170.9	-23842.7
	Maximum Cargo (LH)	113.1	3680.5	416264.6	-1170.9	-132428.8

 MODEL 78401 (Long Basket). The following weight and balance is for the cargo basket installed in accordance with drawing 78401.



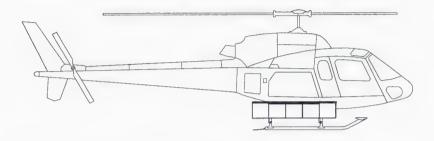
A) Configuration 78401-01 (Long Basket, Low Mounted)

Standard

	T	Otalidai				
P/N	Description	cription Weight Longitudinal		itudinal	Lateral	
			arm	moment	arm	moment
		lb	in	in-lb	in	in-lb
78410-01	Basket (RH)	57.5	135.7	7802.8	48.4	2783.0
	Maximum Cargo (RH)	250.0	135.7	33925.0	48.4	12100.0
78410-01	Basket (LH)	57.5	135.7	7802.8	-48.4	-2783.0
	Maximum Cargo (LH)	250.0	135.7	33925.0	-48.4	-12100.0

P/N	Description	Weight	Long	Longitudinal		Lateral	
			arm	moment	arm	moment	
		kg	mm	mm-kg	mm	mm-kg	
78410-01	Basket (RH)	26.0	3446.8	89678.7	1229.4	31985.6	
	Maximum Cargo (RH)	113.1	3446.8	311925.8	1229.4	139045.1	
78410-01	Basket (LH)	26.0	3446.8	89678.7	-1229.4	-31985.6	
	Maximum Cargo (LH)	113.1	3446.8	311925.8	-1229.4	-139045.1	

FMS764.91

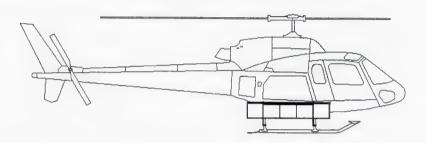


B) Configuration 78401-03 (Long Basket, Mid Mounted)

Standard

		Otalian.	-			
P/N	Description	Weight	Longitudinal		Lateral	
			arm	moment	arm	moment
		lb	in	in-lb	in	in-lb
78410-01	Basket (RH)	57.5	135.7	7802.8	47.0	2702.5
	Maximum Cargo (RH)	250.0	135.7	33925.0	47.0	11750.0
78410-01	Basket (LH)	57.5	135.7	7802.8	-47.0	-2702.5
>	Maximum Cargo (LH)	250.0	135.7	33925.0	-47.0	-11750.0

		INICITIC				
P/N	Description	Weight	Longitudinal		Lateral	
			arm	moment	arm	moment
		kg	mm_	mm-kg	mm	mm-kg
78410-01	Basket (RH)	26.0	3446.8	89678.7	1193.8	31060.4
	Maximum Cargo (RH)	113.1	3446.8	311925.8	1193.8	135018.8
78410-01	Basket (LH)	26.0	3446.8	89678.7	-1193.8	-31060.4
	Maximum Cargo (LH)	113.1	3446.8	311925.8	-1193.8	-135018.8



C) Configuration 78401-02 (Long Basket, High Mounted)

Standard

		Stariuar	u			
P/N	Description	Weight	Long	itudinal	La	teral
			arm	moment	arm	moment
		lb	in	in-lb	in	in-lb
78410-01	Basket (RH)	57.5	135.7	7802.8	46.1	2650.8
	Maximum Cargo (RH)	250.0	135.7	33925.0	46.1	11525.0
78410-01	Basket (LH)	57.5	135.7	7802.8	-46.1	-2650.8
	Maximum Cargo (LH)	250.0	135.7	33925.0	-46.1	-11525.0

P/N	Description	Weight Longitudinal		itudinal	Lateral	
			arm	moment	arm	moment
		kg	mm	mm-kg	mm	mm-kg
78410-01	Basket (RH)	26.0	3446.8	89678.7	1170.9	30465.6
	Maximum Cargo (RH)	113.1	3446.8	311925.8	1170.9	132428.8
78410-01	Basket (LH)	26.0	3446.8	89678.7	-1170.9	-30465.6
	Maximum Cargo (LH)	113.1	3446.8	311925.8	-1170.9	-132428.8

VI INSTALLATION / REMOVAL INSTRUCTIONS

Cargo Baskets

The beams are installed in accordance with 78601. The basket is installed in accordance with drawing 76401, 77601 or 78401, as applicable. Removal of the basket leaving the beams in place is an approved configuration for flight. Logbook entry indicating installation or removal of basket and which weight and balance amendment is in effect is required when basket is installed or removed.

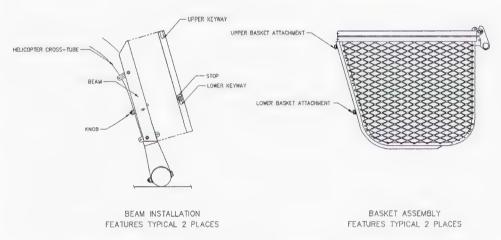


Figure 1 – Basket Attachment Features (Low beam installation shown. Beam attachment features typical for low and high beam installations)

- 4. Installation Refer to Figure 1 and Figure 2.
 - a) Set basket upper attachment into upper keyway in forward and aft beams.
 - At forward attachment hoop, lift basket until lower attachment fitting hits stop.
 - c) Push fitting into keyway and slide basket down until locked.
 - d) Repeat step a,b and c for aft attachment hoop.

- 2. Removal Refer to Figure 1 and Figure 2.
 - a) Pull knob at bottom end of forward beam and lift basket until lower attachment fitting is free of keyway. Keep upper basket attachment in keyway on beam.
 - b) Pull knob at bottom end of aft beam and lift basket until lower attachment fitting is free of keyway. Keep upper basket attachment in keyway on beam.
 - c) Lift basket until upper attachments are out of keyways on both beams and remove basket from helicopter.

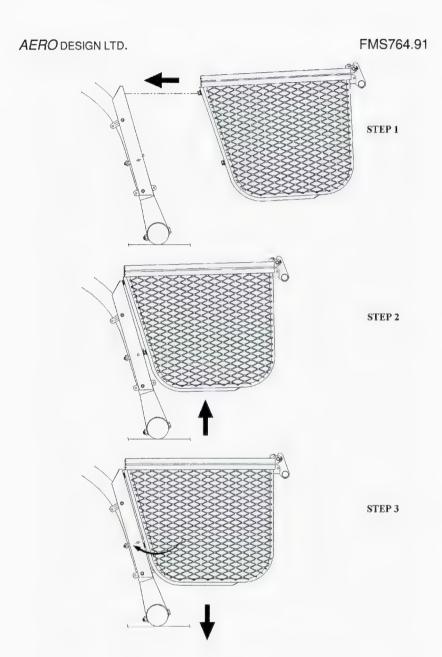


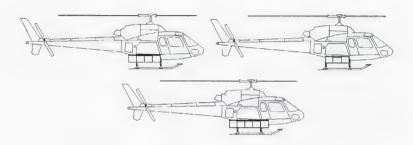
Figure 2 – Basket Attachment Steps (Low basket installation shown. Installation instructions typical for low and high basket installation).

INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA 764.90

EUROCOPTER AS350 & AS355 SERIES

QUICK RELEASE CARGO BASKET

MODELS: 764, 776 AND 784



TCCA Supplemental Type Certificate No. SH08-16 FAA Supplemental Type Certificate No. SR02680NY

Preface

These Instructions for Continued Airworthiness shall be included in the rotorcraft Maintenance Manual when the Quick Release Cargo Basket installed in accordance with AERO Design Ltd. Document Control Lists:

- DCL764-1 (for Installation 76401), Revision 2,
- DCL776-1 (for Installation 77601), Revision 2,
- DCL784-1 (for Installation 78401), Revision 2,
- DCL786-1 (for mounting provision), Revision 2, or later approved revision, is installed.

The information contained herein supplements the information in the basic Maintenance Manual. For Maintenance practices and procedures not contained in these Instructions for Continued Airworthiness refer to the basic Maintenance Manual and its approved supplements.

Revision 2 Date: 22 December, 2009

AERO Design Ltd. Engineering Consultants 2013 - 39th Avenue N.E., Calgary, Alberta T2E 6R7

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E-Mail: info@aerodesign.ca

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RECORD OF REVISIONS

Revision Number	Issue Date	Date Inserted	Ву
0	25 February 2008		Original Issue
1	24 June, 2009		
2	22 December 2009		
···			
	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		

LIST OF EFFECTIVE PAGES

List of Revisions	Revision 0 (Original Issue)	25 February, 2008
	Revision 1	24 June, 2009
	Revision 2	22 December, 2009

List of Effective Pages

Description	<u>Pages</u>	Revision No.
Cover	1	2
Revision Record/List of Effective Pages	2	2
Table of Contents	3	2
00-00-00	4-5	0
04-00-00	6	1
05-00-00	7-10	1
11-00-00	11	2
25-50-00	12-22	2

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CHAPTER 0 - INTRODUCTION

0-1 SCOPE

The following Instructions for Continued Airworthiness (ICA) satisfy the requirements of 14 CFR 27.1529, and provide the information necessary to complete the on-going maintenance and inspections required for rotorcraft embodying the Quick Release Cargo Basket as described herein.

0-2 DEFINITIONS AND ABBREVIATIONS

ICA - Instructions for Continued Airworthiness

LH - Left Hand

RH - Right Hand

0-3 DISTRIBUTION

Copies of this ICA and amendments shall be distributed to all known purchasers of the Quick Release Cargo Basket. Requests for a copy may be made in writing to:

AERO Design Ltd. 2013 39th Avenue N.E. Calgary, Alberta T2E 6R7

Fax: 403-250-8333

Email: info@aerodesign.ca

Any changes will be sent to Transport Canada. All changes will be recorded in the Record of Revisions page at the front of this document.

0-4 COMPATIBILITY

Prior to incorporating this modification, the installer shall establish that the interrelationship between this change and any other modification(s) incorporated will not adversely affect the airworthiness of the helicopter.

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AERO Design Ltd. ICA 764.90

0-5 GENERAL DESCRIPTION

The cargo basket installation is a metal mesh basket installed to the side of the helicopter on beams attached to the landing gear cross tubes. The quick release basket allows for the installation and removal of the basket without tools, leaving the mounting beams in place.

The basket itself is made of a steel welded tubing structure, and lined with expanded steel mesh. The basket has a hinged lid with a self-locking handle.

The beams consist of a steel tube bolted to a clamp on the cross-tube. The quick release mechanism is built into the steel tube.

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CHAPTER 4 - AIRWORTHINESS LIMITATIONS

Transport Canada

The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister.

FAA

The Airworthiness Limitations section is FAA approved and specifies maintenance required under Sections 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

No additional airworthiness limitations have been imposed due the installation of the Quick Release Cargo Basket.

Revision 1 04-00-00

CHAPTER 5 - INSPECTION REQUIREMENTS

5-1 INSPECTION SCHEDULE

Continued airworthiness is contingent upon compliance with the following inspection items. These items shall be completed in conjunction with the rotorcraft Maintenance Inspection schedule, or other approved program, or upon removal and replacement of any component of Quick Release Cargo Basket.

Daily Inspection

- 1. Inspection Area: Basket
 - a) Inspect the basket attachment to the beams for condition and security. Ensure quick release mechanism is completely extended, flush with the outboard surface of the beam.
 - b) Inspect latching of the lid for correct operation. If basket is bent inward the lid will close but may not latch.

300 Hour or Annual Inspection

- 1. Inspection Area: Basket
 - a) Visually inspect tube-to-tube welds and mesh-to-tube welds for cracks, corrosion or other damage.
 - b) Visually inspect basket mesh for damage.
- 2. Inspection Area: Beams

With the basket removed:

- a) Visually inspect beams and clamps attaching basket to the helicopter for cracks, corrosion or other damage.
- b) Visually inspect lugs attaching the basket to the beams for security and damage.
- c) Visually inspect bolts attaching beams to clamps and clamps to cross tubes for condition and security.

Special Inspections

- 1. Following a hard landing inspect the Quick Release Cargo Basket installation in accordance with the 300 hour or annual inspection listed above.
- 2. Any joints using a helical thread insert (Helicoil) shall be inspected on assembly in accordance with the procedure for checking self locking nuts and screws specified in the Eurocopter Standard Practices Manual, Section 20.02.05.601

Revision 1 05-00-00

5-2 DAMAGE LIMITS / REPAIR INSTRUCTIONS

If damage is found in the inspections above, repair in accordance with the instructions below.

1. Basket

- a) Repair Basket in accordance with AC43.13-1B, Chapter 4, Section 5, Welding, as required.
- b) Basket is fabricated from the following materials:

Attachment Hoops:

1" square steel tube and/or ½" square steel tube

Lid and Rim:

3/4" square steel tube

Frames:

½" square steel tube

Mesh:

3/4" 16 ga. (0.040") expanded steel mesh

c) Touch up with polyurethane paint as required following repairs.

Steel Beams

DO NOT REPAIR DAMAGE TO BEAMS IF BEYOND THE LIMITS BELOW.

- a) Nicks and/or gouges on the inboard face up to 0.030" deep and 0.125" wide may be dressed out to a smooth contour.
- b) Nicks and/or gouges on the side and outboard faces up to 0.060" deep and 0.125" wide may be dressed out to a smooth contour.
- c) Critical keyway dimensions are shown in Figure 1. Attempt to insert 27/64 drill shank into bottom end of keyway. If drill can be inserted, slot is worn beyond limit.



Figure 5.1 – Keyway dimensions – typical for low and high beam assemblies

d) Touch up with polyurethane paint as required following repairs.

Revision 1 05-00-00

3. Aluminum Clamps

DO NOT REPAIR DAMAGE TO CLAMPS IF BEYOND THE LIMITS BELOW.

- a) Nicks and/or gouges on the top or bottom surface up to 0.060" deep and 0.125" wide may be dressed out to a smooth contour. Refer to Figure 2.
- b) Nicks and/or gouges on the outer edge up to 0.030" deep and 0.125" wide may be dressed out to a smooth contour. Refer to Figure 2.
- c) Any cracking on any surface is unacceptable.
- d) Touch up with polyurethane paint as required following repairs.

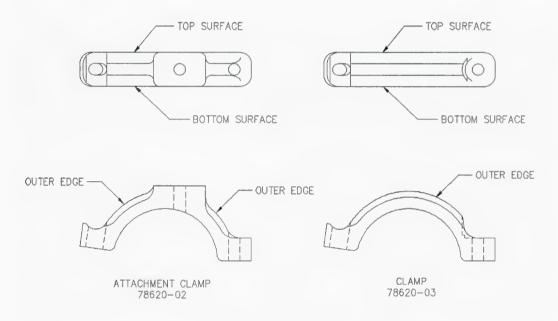


Figure 5.2 - Aluminum Clamps

4. Helical Thread Inserts

Helical thread inserts (Helicoils) found to be damaged shall be repaired in accordance with the Eurocopter Standard Practices Manual, Section 20.03.04.404.

Part numbers:

1/4-28 insert: 3591-4CN375

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5-3 PROTECTIVE TREATMENT INFORMATION

1. Beams

The steel tubes are supplied powder coated white. If the powder coat is damaged, touch up with white polyurethane paint.

2. Clamps

The aluminum clamps are supplied painted white. If the paint is damaged, touch up with white polyurethane paint.

3. Cargo Basket

The cargo basket is supplied powder coated white. If the powder coat is damaged, touch up with white polyurethane paint.

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CHAPTER 11 - MARKINGS AND PLACARDS

The following markings and placards are used with the Quick Release Cargo Basket Installation in the locations noted:

a) Located on basket lid:



PLACARD FOR 77601 BASKET INSTALLATION



PLACARD FOR 76401 BASKET INSTALLATION



PLACARD FOR 78401 BASKET INSTALLATION

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CHAPTER 25 – EQUIPMENT AND FURNISHINGS

SECTION 50 - CARGO COMPARTMENTS

The Quick Release Cargo Basket Installation may be applied to the right or left side of the helicopter.

25-1 BEAMS INSTALLATION

Refer to Figure 25.1. Refer to section 25-5 for part numbers.

- 1. Attach two (2) Attachment Clamps (78620-02) to each Beam Assembly with two (2) AN4-14A Bolts and two (2) AN960-416 Washers. Do not tighten bolts.
- Locate the Beam Assemblies onto the forward and aft skid gear cross-tubes. Both clamps on the aft beam are positioned with lugs inboard (see figure 25.1). Upper clamp on the forward beam is positioned with lug outboard, lower clamp is positioned with lug inboard.
- 3. Position two (2) Clamps (78620-03) onto the Attachment Clamps (78620-02) around cross tube. Fasten together using one AN4-14A Bolt, AN960-416 Washers and MS21044N4 Nut through one side of the Clamp Assembly and one FT4F-175H T-Bolt and BH00182A4 Self-Aligning Nut through the other side of the Clamp Assembly. Tighten bolts enough to prevent slippage on the tube while adjusting installation in step 4.

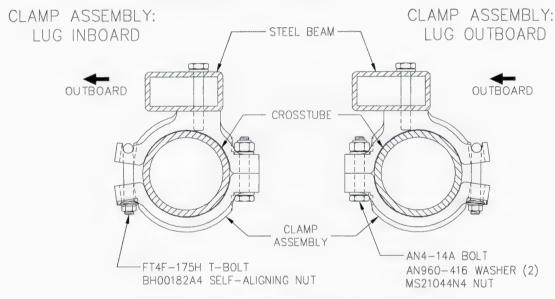


Figure 25.1 – Beam Installation – Clamp Detail Lug Inboard and Lug Outboard Installations Shown

4. In order to easily snap the basket in and out of the beams, the beams must be correctly aligned. The following procedures provide corrective actions for the conditions noted. Ensure beams are approximately parallel and aligned front to back before starting. For all procedures listed below, remove the basket before applying the correction and re-check after.

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a. Beams too far apart (basket cannot be installed in top slots):

If the distance is less than 1/8": Rotate the forward beam slightly aft and/or the aft beam slightly forward until the basket can be set in the top slot of the beam.

If the distance is more than 1/8": Using ½" commercial stainless steel fender washers, shim the FORWARD beam by inserting the washer(s) between the beam and both clamps. Only use enough shims to allow basket to enter the TOP slot.

b. Beams too close together (basket cannot be installed in top slots):

If the distance is less than 1/8": Rotate the forward beam slightly forward and/or the aft beam slightly aft until the basket can be set in the top slot of the beam.

If the distance is more than 1/8": Using ½" commercial stainless steel fender washers, shim the AFT beam by inserting the washer(s) between the beam and both clamps. Only use enough shims to allow basket to enter the TOP slot.

c. Basket in top slots, resting with bottom fitting against beams, one fitting is away from the surface of the beam:

The beams are not parallel. Adjust the forward beam up or down the forward cross tube until both bottom fittings sit flat on the beams.

d. Basket in top slots, resting with bottom fittings against beams, both fittings do not line up with keyway (same direction):

The beams are not at the same height. Raise or lower the aft beam along the aft cross tube until the bottom fittings on the basket are aligned with both keyways.

e. Basket in top slots, resting with bottom fittings against beams, one fitting does not line up with keyway:

The landing gear cross tubes are not parallel. Using 1/4" commercial stainless steel fender washers, shim the top or bottom (as required) to align the bottom fitting on the basket with the keyway.

- Bolts attaching beams to clamps (AN4-14A) that have been shimmed require longer bolts. There must be at least 0.38" of thread protruding with shims in place.
 - 1 washer AN4-14A bolt (no change)
 - 2-3 washers AN4-15A bolt
 - 4-5 washers AN4-16A bolt

Shimming in excess of 5 washers may indicate incorrect alignment in step 4. Confirm corrective actions taken, and if shims are still required, contact AERO Design Ltd. for further instructions.

6. Torque all ¼" fasteners (12 places) to 50-70 inch-pounds. Note: A gap will remain on the side of the clamp assembly with the T-bolt as shown in Drawing 78601 and Figure 3.

Revision 2 25-50-00

BEAMS REMOVAL 25-2

Refer to Figure 25.1.

- 1. Remove Cargo Basket. Refer to section 25-4.
- 2. Remove fasteners securing clamp assemblies to the forward cross-tube. Remove Beam Assembly.
- 3. Remove fasteners securing clamp assemblies to the aft cross-tube. Remove Beam Assembly.

25-3 **BASKET INSTALLATION**

Refer to Figure 25.2 and Figure 25.3. Refer to section 25-5 for part numbers.

- 1. Set basket upper attachment into upper keyway in forward and aft beams.
- 2. At forward attachment hoop, lift basket until lower attachment fitting hits stop.
- 3. Push fitting into keyway and slide basket down until locked.
- 4. Repeat step 2 and Step 3 for aft attachment hoop.

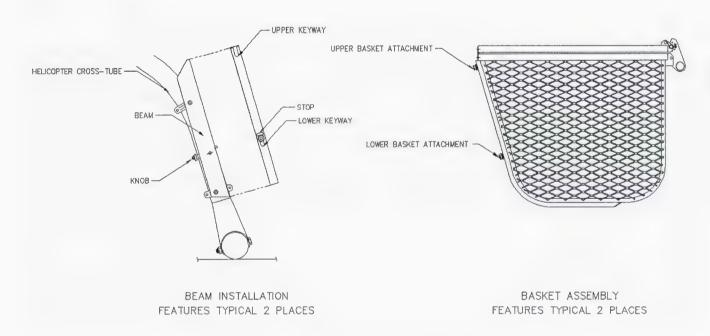


Figure 25.2 - Basket Attachment Features (Low beam installation shown. Beam attachment features typical.)

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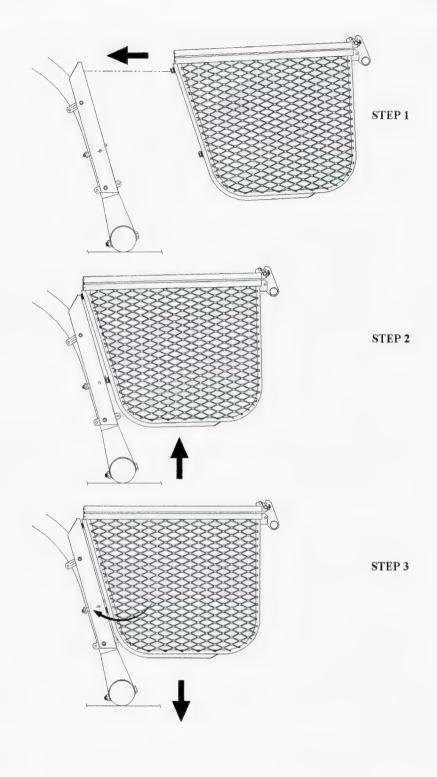


Figure 25.3 - Basket Attachment Steps

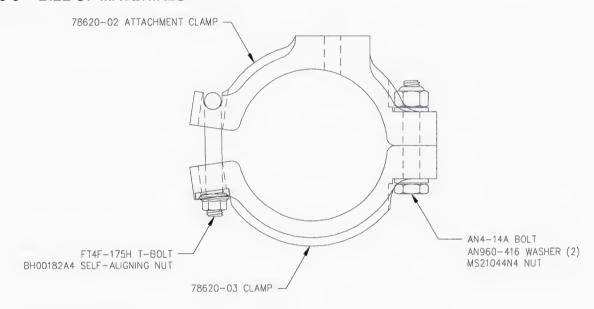
Revision 2 **25-50-00** Page 15

25-4 BASKET REMOVAL

Refer to Figure 4 and Figure 5.

- 1. Pull knob at bottom end of forward beam and lift basket until lower attachment fitting is free of keyway. Keep upper basket attachment in keyway on beam.
- 2. Pull knob at bottom end of aft beam and lift basket until lower attachment fitting is free of keyway. Keep upper basket attachment in keyway on beam.
- 3. Lift basket until upper attachments are out of keyways on both beams and remove basket from helicopter.

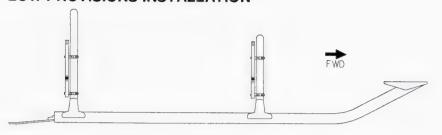
25-5 BILL OF MATERIALS



CLAMP ASSEMBLY

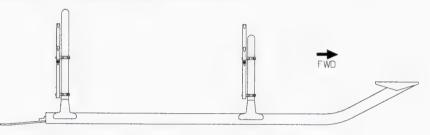
Qty.	Part Number	Description
1	78620-01	Clamp Assembly
. 1	78620-02	Attachment Clamp (with mounting pad)
. 1	78620-03	Clamp (no mounting pad)
. 1	AN4-14A	Bolt
. 2	AN960-416	Washer
. 1	MS21044N4	Nut
. 1	FT4F-175H	T-Bolt
. 1	BH00182A4	Self Aligning Nut

LOW PROVISIONS INSTALLATION



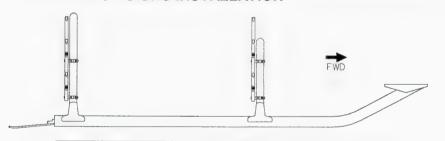
Qty.	Part Number	Description	
1	78601-01-01	Low Provisions Installation- RH	
1	78601-01-02	Low Provisions Installation- LH	
. 4	78620-01	Clamp Assembly	
. 2	78630-01	Low Beam Assembly	
. 4	AN4-14A	Bolt	
. 4	AN960-416	Washer	
. A/R		Commercial Stainless Steel Fender Washer	

MID PROVISIONS INSTALLATION



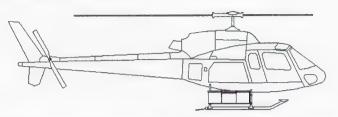
Qty.	Part Number	Description
1	78601-03-01	Mid Provisions Installation - RH
1	78601-03-02	Mid Provisions Installation - LH
. 4	78620-01	Clamp Assembly
. 2	78632-01	Mid Beam Assembly
. 4	AN4-14A	Bolt
. 4	AN960-416	Washer
. A/R		Commercial Stainless Steel Fender Washer

HIGH PROVISIONS INSTALLATION



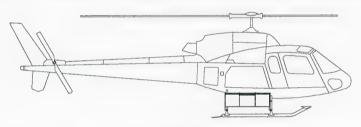
Part Number	Description	
78601-02-01	High Provisions Installation - RH	_
78601-02-02	High Provisions Installation - LH	
78620-01	Clamp Assembly	
78631-01	High Beam Assembly	
AN4-14A	Bolt	
AN960-416	Washer	
	Commercial Stainless Steel Fender Washer	
	78601-02-01 78601-02-02 78620-01 78631-01 AN4-14A	78601-02-01 High Provisions Installation - RH 78601-02-02 High Provisions Installation - LH 78620-01 Clamp Assembly 78631-01 High Beam Assembly AN4-14A Bolt AN960-416 Washer

SHORT BASKET - MODEL 77601



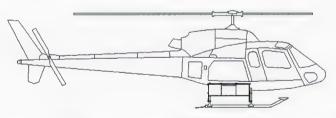
Quick Release Cargo Basket: Configuration 77601-01 (Short Basket, Low mounted)

Qty.	Part Number	Description
1	77601-01-01	Short Basket Installation (Low - RH)
. 1	78601-01-01	Low Provisions Installation (RH)
. 1	77610-01	Short Basket Assembly
1	77601-01-02	Short Basket Installation (Low - LH)
. 1	78601-01-02	Low Provisions Installation (LH)
. 1	77610-01	Short Basket Assembly



Quick Release Cargo Basket: Configuration 77601-03 (Short Basket, Mid mounted)

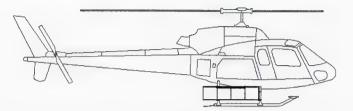
Qty.	Part Number	Description
1	77601-03-01	Short Basket Installation (Mid - RH)
. 1	78601-03-01	Mid Provisions Installation (RH)
. 1	77610-01	Short Basket Assembly
1	77601-03-02	Short Basket Installation (Mid - LH)
. 1	78601-03-02	Mid Provisions Installation (LH)
. 1	77610-01	Short Basket Assembly



Quick Release Cargo Basket: Configuration 77601-02 (Short Basket, High mounted)

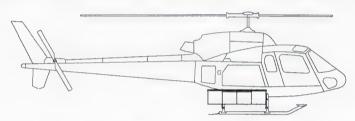
Qty.	Part Number	Description
1	77601-02-01	Short Basket Installation (High - RH)
. 1	78601-02-01	High Provisions Installation (RH)
. 1	77610-01	Short Basket Assembly
1	77601-02-02	Short Basket Installation (High - LH)
. 1	78601-02-02	High Provisions Installation (LH)
. 1	77610-01	Short Basket Assembly

MEDIUM BASKET - MODEL 76401



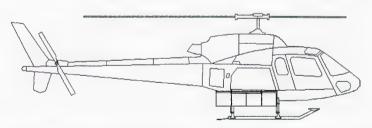
Quick Release Cargo Basket: Configuration 76401-01 (Medium Basket, Low Mounted)

Qty.	Part Number	Description
1	76401-01-01	Medium Basket Installation (Low - RH)
. 1	78601-01-01	Low Provisions Installation (RH)
. 1	76410-01-01	Medium Basket Assembly (RH)
1	76401-01-02	Medium Basket Installation (Low - LH)
. 1	78601-01-02	Low Provisions Installation (LH)
. 1	76410-01-02	Medium Basket Assembly (LH)



Quick Release Cargo Basket: Configuration 76401-03 (Medium Basket, Mid Mounted)

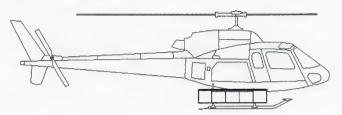
Qty.	Part Number	Description
1	76401-03-01	Medium Basket Installation (Mid - RH)
. 1	78601-03-01	Mid Provisions Installation (RH)
. 1	76410-01-01	Medium Basket Assembly (RH)
1	76401-03-02	Medium Basket Installation (Mid - LH)
. 1	78601-03-02	Mid Provisions Installation (LH)
. 1	76410-01-02	Medium Basket Assembly (LH)



Quick Release Cargo Basket: Configuration 76401-02 (Medium Basket, High Mounted)

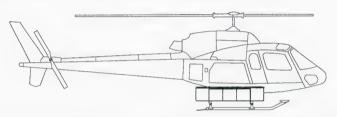
Qty.	Part Number	Description
1	76401-02-01	Medium Basket Installation (High - RH)
. 1	78601-02-01	High Provisions Installation (RH)
. 1	76410-01-01	Medium Basket Assembly (RH)
1	76401-02-02	Medium Basket Installation (High - LH)
. 1	78601-02-02	High Provisions Installation (LH)
. 1	76410-01-02	Medium Basket Assembly (LH)

LONG BASKET - MODEL 78401



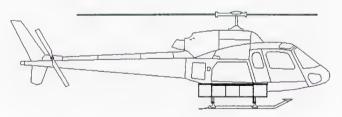
Quick Release Cargo Basket: Configuration 78401-01 (Long Basket, Low Mounted)

Qty.	Part Number	Description	
1	78401-01-01	Long Basket Installation (Low - RH)	
. 1	78601-01-01	Low Provisions Installation (RH)	
. 1	78410-01	Long Basket Assembly	
1	78401-01-02	Long Basket Installation (Low - LH)	*to*tore deleterate
. 1	78601-01-02	Low Provisions Installation (LH)	
. 1	78410-01	Long Basket Assembly	



Quick Release Cargo Basket: Configuration 78401-03 (Long Basket, Mid Mounted)

Qty.	Part Number	Description
1	78401-03-01	Long Basket Installation (Mid - RH)
. 1	78601-03-01	Mid Provisions Installation (RH)
. 1	78410-01	Long Basket Assembly
1	78401-03-02	Long Basket Installation (Mid - LH)
. 1	78601-03-02	Mid Provisions Installation (LH)
. 1	78410-01	Long Basket Assembly



Quick Release Cargo Basket: Configuration 78401-02 (Long Basket, High Mounted)

Qty.	Part Number	Description	
1	78401-02-01	Long Basket Installation (High - RH)	
. 1	78601-02-01	High Provisions Installation (RH)	
. 1	78410-01	Long Basket Assembly	
1	78401-02-02	Long Basket Installation (High - LH)	
. 1	78601-02-02	High Provisions Installation (LH)	
. 1	78410-01	Long Basket Assembly	

25-6 WEIGHT AND BALANCE

This section contains weight and balance information for cargo basket models 764, 776 and 784. Each cargo basket model has multiple configurations. Refer to the weight and balance information applicable to basket model and configuration installed.

Determine which height (low, mid or high) and length (short, medium, or long) and locate on chart. If arm is required, divide the moment by the weight.

Lateral moment shown is for right side. Left side installation lateral moment is negative.

Two weight and balance configurations are required: Attachment Provisions only; and Basket Installed.

						E	Basket Co	nfigurati	on				
			Provisions Or	nly		Short			Medium			Long	
Part No.			78601-XX			77601-XX			76401-XX			78401-XX	
			Longitudinal	Lateral		Longitudinal	Lateral		Longitudinal	Lateral		Longitudinal	Lateral
Mounting	Dash	weight	moment	moment	weight	moment	moment	weight	moment	moment	weight	moment	moment
Provisions	No.	lbs	in-lb	in-lb	lbs	in-lb	in-lb	lbs	in-lb	in-lb	lbs	in-lb	in-lb
Standard Wall													
Low	-01	6.4	866.8	241.0	41.4	5616.3	1924.5	51.4	7387.3	2428.0	63.9	8669.6	3024.0
Mid	-03	8.0	1083.9	298.2	43.0	5833.4	1925.7	53.0	7604.4	2413.2	65.5	8886.7	3000.7
High	-02	9.4	1273.9	346.0	44.4	6023.4	1942.0	54.4	7794.4	2420.5	66.9	9076.7	2996.8
Light Wall													
Low	-01	3.4	459.7	128.2	38.4	5209.2	1724.2	48.4	6980.2	2202.7	60.9	8262.5	2778.9
Mid	-03	4.0	541.1	149.4	39.0	5290.6	1745.4	49.0	7061.6	2223.9	61.5	8343.9	2800.2
High	-02	4.8	649.7	177.2	39.8	5399.2	1773.2	49.8	7170.2	2251.7	62.3	8452.4	2828.0

Table 25.1 – Weight and Balance (Standard Units)

						E	Basket Co	nfigurati	on				**
			Provisions Or	nly		Short			Medium			Long	
Part No.			78601-XX			77601-XX			76401-XX			78401-XX	
			Longitudinal	Lateral		Longitudinal	Lateral		Longitudinal	Lateral		Longitudinal	Lateral
0	Dash	weight	moment	moment	weight	moment	moment		moment	moment	weight	moment	moment
Provisions	No.	kg	mm-kg	mm-kg	kg	mm-kg	mm-kg	kg	mm-kg	mm-kg	kg	mm-kg	mm-kg
Standard Wall													
Low	-01	2.9	9962.3	2769.4	18.7	64549.3	22118.2	23.3	84903.8	27905.1	28.9	99641.0	34755.0
Mid	-03	3.6	12457.7	3427.7	19.5	67044.7	22132.9	24.0	87399.2	27735.9	29.6	102136.4	34488.1
High	-02	4.3	14641.2	3976.9	20.1	69228.2	22320.0	24.6	89582.7	27819.6	30.3	104319.9	3442.5
Light Wall													
Low	-01	1.5	5283.4	1473.0	17.4	59870.4	19816.1	21.9	80224.9	25315.6	27.6	94962.1	31938.6
Mid	-03	1.8	6219.2	1717.5	17.6	60806.2	20060.7	22.2	81160.7	25560.2	27.8	95797.9	32183.2
High	-02	2.2	7466.9	2036.6	18.0	62053.9	20379.8	22.5	82408.4	25879.3	28.2	97145.6	32502.2

Table 25.2 – Weight and Balance (Metric Units)

Revision 2 25-50-00

AERO Design Ltd. ICA 764.90

OPTIONS. The following weight and balance is for optional configurations.

Standard

P/N	Description	Weight	Lon	gitudinal	Lateral	
			arm	moment	arm	moment
		lb	in	in-lb	in	in-lb
70406-01	Front End Cutout	-0.3	107.5	-32.3	*	*
70405-01	Lid Step (Short Basket)	4.0	135.7	542.8	*	*
70405-01	Lid Step (Medium Basket)	5.8	144.9	840.4	*	*
70405-01	Lid Step (Long Basket)	7.7	135.7	1044.9	*	*

Metric

P/N	Description	Weight	Weight Longitudinal		Lateral	
			arm	Moment	arm	moment
		kg	mm	mm-kg	mm	mm-kg
70406-01	Front End Cutout	-0.1	2730.5	-273.1	*	*
70405-01	Lid Step (Short Basket)	1.8	3446.8	6204.2	*	*
70405-01	Lid Step (Medium Basket)	2.6	3680.5	9569.3	*	*
70405-01	Lid Step (Long Basket)	3.5	3446.8	12063.8	*	*

^{*}Note: Lateral arm is the same as the basket configuration. Lateral moment is calculated with the lateral arm.

25-7 STRUCTURAL FASTENER DATA

Refer to Eurocopter Standard Practices Manual for torque values not listed in this ICA.

DOCUMENT NO.	DOCU	MENT CONTENT	REVISION
INSTALLATION DOCUMENTS			
77601	Quick Release Cargo	o Basket Installation	2
ICA764.90	Instructions for Conti	inued Airworthiness	2
FMS764.91	Flight Manual Supple	ement	1
FABRICATION DOCUMENTS			
DCL776-3	Document Control Li	ist - Basket Assembly	1
ENGINEERING DOCUMENTS			
APPROVAL:	ORIGINAL DATE:	AERO DESIG	NITO
Transport Transports Canada Canada	06 March 2008	2013 – 39 th Ave NE, Calgary, A	Alberta, T2E 6R7
AIRCRAFT CERTIFICATION	REVISION DATE: 01 February 2010	Ph. (403) 250-80 Fax. (403) 250-80	27 333
APPROVED S. Auster	SHEET 1 OF 1	Eurocopter AS350 & AS355 Quick Release Cargo Ba Installation	
Appr'l No. 5H08 - 16 Appr'l Date 08-04-11			

DOCUMENT NO.	DOCU	MENT CONTENT	REVISION
DOCUMENT NO. INSTALLATION DOCUMENTS FABRICATION DOCUMENTS 77610 77611 77612 76421 76422 77627 69823 49215 49216 84255 84261 84262 84265 84267 84272 36273 36274 36275 36277 36278 36280	Basket Assembly Basket Body Assem Lid Assembly Hoop Hoop Assembly Placard Lug Spacer Spacer Handle Assembly Handle Bar Assembl Handle Bracket Assemble Handle Bracket Bushing Lid Bracket Bushing Bushing Handle Bar Spring Brace Assembly	bly	## REVISION 1 1 1 0 0 0 0 0 0 0 0 0 0 1 2 3 0 0 2 2 2
ENGINEERING DOCUMENTS ER764.01 TP764.02 FTP764.03 ER764.04	Engineering Report Test Plan/Report Flight Test Plan/Rep Engineering Report	ort	0 0 0 0
APPROVAL: Transport Canada Transports Canada ARCRAFT CERTIFICATION	ORIGINAL DATE: 06 March 2008 REVISION DATE: 01 February 2010	AERO DESIGI 2013 – 39 th Ave NE, Calgary, AI Ph. (403) 250-802 Fax. (403) 250-833	berta, T2E 6R7 ?7
APPROVED By 5- Cluster Appril No. 5H08-16	SHEET 1 OF 1	Eurocopter AS350 & A Quick Release Carg Basket Assen	jo Basket
Appri No. 2106 (Q) Appri Date 08-04-11 Issue No. 2 Issue Date 10-03-22 YY-MM-DD	DC	L776-3	Rev. 1

DOCUMENT NO.	DOCU	MENT CONTENT	REVISION
INSTALLATION DOCUMENTS			
76401	Quick Release Carg	o Basket Installation	2
ICA764.90	Instructions for Con	tinued Airworthiness	2
FMS764.91	Flight Manual Suppl	ement	1
FABRICATION DOCUMENTS			
DCL764-3	Document Control L	ist - Basket Assembly	2
ENGINEERING DOCUMENTS			
APPROVAL: Transport Transports Canada Canada	ORIGINAL DATE: 06 March 2008 REVISION DATE: 01 February 2010	AERO DESIO 2013 – 39 th Ave NE, Calgary, Ph. (403) 250-6 Fax. (403) 250-6	Alberta, T2E 6R7 8027
AIRCRAFT CERTIFICATION DIVISION APPROVED By D. S. Cluster	SHEET 1 OF 1	Eurocopter AS350 & Quick Release Ca Installation	rgo Basket
Appril No. 3HO8 - (6 Appril Date 08-04-1)		L764-1	Rev.

DOCUMENT NO.	DOCU	MENT CONTENT	REVISION
INSTALLATION DOCUMENTS			
78401	Quick Release Carg	o Basket Installation	2
ICA764.90	Instructions for Conf	tinued Airworthiness	2
FMS764.91	Flight Manual Suppl	ement	1
FABRICATION DOCUMENTS			
DCL784-3	Document Control L	ist - Basket Assembly	2
APPROVAL: Transport Transports Canada AIRCRAFT CERTIFICATION	ORIGINAL DATE: 06 March 2008 REVISION DATE: 01 February 2010	AERO DESIG 2013 – 39 th Ave NE, Calgary, A Ph. (403) 250-80 Fax. (403) 250-83	alberta, T2E 6R7 27
APPROVAL: Transport Transports Canada Canada	06 March 2008 REVISION DATE:	2013 – 39 th Ave NE, Calgary, A Ph. (403) 250-80	Nberta, T2E 6R7 27 333 AS355 Series go Basket

DOCUMENT NO.	DOCU	MENT CONTENT	REVISION
FABRICATION DOCUMENTS 78410 78411 78412 76421 76422 76423 78427 69823 49215 49216 84255 84261 84262 84262 84267 84272 36273 36274 36275 36277 36278 36280	Basket Assembly Basket Body Assemi Lid Assembly Hoop Hoop Assembly Placard Lug Spacer Spacer Handle Assembly Handle Bar Assembl Handle Bracket Assemble Handle Bracket Bushing Lid Bracket Bushing Bushing Handle Bar Spring Brace Assembly	ply	1 2 1 0 0 1 1 1 0 0 0 0 0 0 0 0 0 0 1 2 3 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
ENGINEERING DOCUMENTS ER764.01 TP764.02 FTP764.03 ER764.04	Engineering Report Test Plan/Report Flight Test Plan/Rep Engineering Report	ort	0 0 0 0
APPROVAL: Transport Transports Canada Canada	ORIGINAL DATE: 06 March 2008 REVISION DATE: 01 February 2010	AERO DESIGN 2013 – 39 th Ave NE, Calgary, All Ph. (403) 250-802 Fax. (403) 250-833	oerta, T2E 6R7 7
AIRCRAFT CERTIFICATION DIVISION APPROVED By S. Cluster	SHEET 1 OF 1	Eurocopter AS350 & A Quick Release Carg Basket Assem	o Basket
Appril No. 5HO8-L6 Appril Date 08-04-11 Issue No. 2 Issue Date 10-03-22 YY-MM-DD	DC	L784-3	2

DOCUMENT NO.	DOCU	MENT CONTENT	REVISION
INSTALLATION DOCUMENTS			
78601	Attachment Provision	ns Installation	3
ICA764.90	Instructions for Cont	inued Airworthiness	2
FABRICATION DOCUMENTS			
DCL786-3	Document Control Li	st - Provision Assembly	2
ENGINEERING DOCUMENTS			
APPROVAL: Transport Transports Canada Canada AIRCRAFT CERTIFICATION	ORIGINAL DATE: 06 March 2008 REVISION DATE: 01 February 2010	AERO DESIO 2013 – 39 th Ave NE, Calgary, Ph. (403) 250-8 Fax. (403) 250-8	Alberta, T2E 6R7 027
APPROVED By S. Australia	SHEET 1 OF 1	Eurocopter AS350 & Basket Prov Installatio	rision
Appril No. SHOB-16 Appril Date 08-04-11 Issue No. 2 Issue Date 10-03-22 YY-MM-DD	DC	L786-1	Rev. 2

DOCUMENT NO.	DOCU	MENT CONTENT	REVISION
FABRICATION DOCUMENTS 78620 78630 78631 78632	Clamp Assembly Low Beam Fabricatio High Beam Fabricatio Mid Beam Fabricatio	on	2 2 3 1
ENGINEERING DOCUMENTS ER764.01 TR764.02 FTP764.03 ER764.04	Engineering Report Load Test Plan/Report Flight Test Plan/Report Engineering Report		0 0 0 0
APPROVAL: Transport Transports Canada Canada AIRCRAFT CERTIFICATION DIVISION	ORIGINAL DATE: 06 March 2008 REVISION DATE: 01 February 2010	AERO DES 2013 – 39 th Ave NE, Calgar Ph. (403) 250 Fax. (403) 250	y, Alberta, T2E 6R7 -8027)-8333
APPROVED By D. S. Cluster Appr'l No. SHOE-16	SHEET 1 OF 1	Basket Installation	on Provision oly
Appr'l Date 08-04-11 Issue No. 2 Issue Date 10-03-22 YY-MM-DD	DC	L786-3	2





1100-9700 Jasper Avenue Edmonton, Alberta T5J 4E6

November 23, 2011

Your file Votre reference
940
Our file Notre reference
C-11-0787
SH08-16

Aero Design Ltd. 2013 39th Avenue North East Calgary, Alberta Canada, T2E 6R7

<u>ATTENTION: EDWARD BURGOIN - DAR 290M</u>

Dear Sirs:

SUBJECT: REVISION TO SUPPLEMENTAL TYPE CERTIFICATE NO. SH08-16 – ISSUE 4

DATED NOVEMBER 23, 2011 - INSTALLATION OF EXTERNAL

ATTACHMENT PROVISIONS AND CARGO BASKET - EUROCOPTER AS350

SERIES AND AS355 SERIES ISSUED TO AERO DESIGN LTD.

This Supplemental Type Certificate (STC) is issued in response to your application. Included with the STC are the documents bearing the original Transport Canada signatures.

The transfer of this SH08-16 in the name of another person requires the prior approval from the Minister in accordance with Canadian Aviation Regulations (CAR) 521.357.

To accomplish this modification, the requirements of CAR 561 apply if parts are manufactured.

Embodiment of this modification is considered to be a maintenance activity and the requirements of CAR 571.06(4) will apply.

An STC holder is required to report any service problem experienced with their product. Therefore, should you become aware of any defect, malfunction or failure resulting from the design change, it is your responsibility to submit a Service Difficulty Report to Transport Canada in accordance with CAR V, Subpart 91. Other obligations as a Design Approval Document Holder are contained in CAR 521, Division VIII.

Yours truly,

J. Staal

Engineering Technologist, Engineering

Civil Aviation

Prairie and Northern Region Phone: 780-495-5227 Facs: 780-495-7963

Encl.



MSI 53 - Review of Supplemental Instructions for Continued Airworthiness

APPENDIX A-3 NORMAL CATEGORY ROTORCRAFT - CAR 527

BLOCK 1

Name of the applicant for the design change approval:

Aero Design Ltd.

Description of the design change:

Installation of Quick Release Cargo Basket on Eurocopter AS350 & AS355 Series

Certification Basis of design change and revision date:

FAR 27, Amendment 27-20

CAR Standard A527.1(c) Program showing how changes to supplemental ICA made by the applicant or by the manufacturers of products and appliances installed in the aeroplane pursuant to the design change will be distributed:

Section 0-3 of Supplemental ICA (ICA 764.90)

CAR Standard 513.05 (1) (g) (iv): Installation Instructions:

Installation Drawing 94001, 76401, 77601, 78401, 78602, 78603

BLOCK 2

Note: Enter "N/A" when no supplemental ICA are needed.

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3		
A527.2 (a) Manual(s) (a) The Instructions for Continued Airworthiness must be in the form of a manual or manuals as appropriate for the quantity of data to be provided.	ICA ref: Eurocopter AS350/AS355 Maintenance Manuals	Supplemental ICA ref: Single Manual (ICA764.90)		
A527.2 (b) Practical arrangement (b) The format of the manual or manuals must provide for a practical arrangement.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual	Supplemental ICA ref: Arranged in ATA format		
A527.3 The Instructions for Continued Airworthiness must contain the following manuals or sections, as appropriate, and information: A527.3 (a) Rotorcraft maintenance manual or				
section A527.3 (a) (1) (Introduction) (1) Introduction information that includes an explanation of the rotorcraft's features and data to the extent necessary for maintenance or preventive maintenance.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: Section 0-1		
A527.3 (a) (2) (Description) (2) A description of the rotorcraft and its systems and installations including its engines, rotors, and appliances.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: Section 0-5		

MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3		
A527.3 (a) (3) Control & Operation (3) Basic control and operation information describing how the rotorcraft components and systems are controlled and how they operate, including any special procedures and limitations that apply.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: N/A		
A527.3 (a) (4) Servicing (4) Servicing information that covers details regarding servicing points, capacities of tanks, reservoirs, types of fluids to be used, pressures applicable to the various systems, location of access panels for inspection and servicing, locations of lubrication points, lubricants to be used, equipment required for servicing, tow instructions and limitations, mooring, jacking, and levelling information.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 12	Supplemental ICA ref: N/A		
A527.3 The Instructions for Continued Airworthiness must contain the following manuals or sections, as appropriate, and information:				
A527.3 (b) Maintenance Instructions. A527.3 (b) (1) Scheduling 1) Scheduling information for each part of the rotorcraft and its engines, auxiliary power units, rotors, accessories, instruments, and equipment that provides the recommended periods at which they should be cleaned, inspected, adjusted, tested, and lubricated, and the degree of inspection, the applicable wear tolerances, and work recommended at these periods. However, the applicant may refer to an accessory, instrument, or equipment manufacturer as the source of this information if the applicant shows that the item has an exceptionally high degree of complexity requiring specialized maintenance techniques, test equipment, or expertise. The recommended overhaul periods and necessary cross-references to the Airworthiness Limitations section of the manual must also be included. In addition, the applicant must include an inspection program that includes the frequency and extent of the inspections necessary to provide for the continued airworthiness of the rotorcraft.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 5	Supplemental ICA ref: Section 5-1		
A527.3 (b) (2) Troubleshooting (2) Troubleshooting information describing probable malfunctions, how to recognize those malfunctions, and the remedial action for those malfunctions.	ICA ref: N/A	Supplemental ICA ref: N/A		

MSI 53 - Review of Supplemental Instructions for Continued Airworthiness

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3 Supplemental ICA ref: Section 25-1 thru 25-4		
A527.3 (b) (3) Removal/replacement (3) Information describing the order and method of removing and replacing products and parts with any necessary precautions to be taken.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 25			
A527.3 (b) (4) General (4) Other general procedural instructions including procedures for system testing during ground running, symmetry checks, weighing and determining the center of gravity, lifting and shoring, and storage limitations.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 7 and 8	Supplemental ICA ref: Section 25-6		
A527.3 (c) Access (c) Diagrams of structural access plates and information needed to gain access for inspections when access plates are not provided.	ICA ref: N/A	Supplemental ICA ref: N/A		
A527.3 (d) Special inspections (d) Details for the application of special inspection techniques including radiographic and ultrasonic testing where such processes are specified.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 5	Supplemental ICA ref: Section 5-1		
A527.3 (e) Protective treatment (e) Information needed to apply protective treatments to the structure after inspection.	ICA ref: Eurocopter Standard Practices Manual, Chapter 20	Supplemental ICA ref: Section 5-3		
A527.3 (f) Fasteners, torque values, etc (f) All data relative to structural fasteners such as identification, discard recommendations, and torque values.	ICA ref: Eurocopter Standard Practices Manual, Chapter 20	Supplemental ICA ref: Section 25-7		
A527.3 (g) Special tools (g) A list of special tools needed.	ICA ref: Eurocopter Tools Catalog	Supplemental ICA ref: N/A		

MSI 53 - Review of Supplemental Instructions for Continued Airworthiness

BLOCK 3

Note: The statement in block 5 does not constitute an approval of the Airworthiness Limitations Section. Airworthiness Limitations differ from other maintenance tasks, in that they are mandatory, as a direct condition of the approval of the type design. They are therefore referenced directly in the approval document itself. However, they must also be included in the Supplemental Instructions for Continued Airworthiness.

A527.4 AWL - Separate Section 1 The Instructions for Continued Airworthiness must contain a section titled Airworthiness Limitations that is segregated and clearly distinguishable from the rest of the document. This section must set forth each mandatory replacement time, structural inspection interval, and related structural inspection procedure approved under 527.571. If the Instructions for ICA ref: Eurocopter AS350/AS355 Continued Airworthiness consist of multiple Supplemental ICA ref: Chapter 4 Maintenance Manual, Chapter 4 documents, the section required by this paragraph must be included in the principal manual. This section must contain a legible statement in a prominent location that reads: "The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister."

BLOCK 4 – Applicant Statement of Compliance

The Supplemental ICA referenced above comprises the complete listing of supplemental ICA necessary to show compliance with the that supports this change in type design.	ne regulatory standard
Applicants Signature:	October 21. 2011
Applicants Name: E. Burgoin, P.Eng, DAR 290M	
BLOCK 5 – Minister's Statement of Acceptability	and the first section of the f
The design change is adequately supported by existing ICA and/or supplemental ICA, as identified above and is acceptable to the I	Minister.
Reviewer's Name: Tack Stael Phone # 780 - 495 - 5227 Email: cack, stand Mail Routing Symbol: RAED	
Signature: Oftach Date: 21 Nov 2011 Etc. gc. ca	NAPA Number
(1CA 764.90, Rev 4, 24 OCT 2011)	C-11-0787

AIRWORTHINESS REQUIREMENTS COMPLIANCE PROGRAM

Page 1 of 3 CP940

APPLICANT: AERO Design Ltd.

2013 39th Avenue NE

Calgary, Alberta, T2E 6R7

DATE: 20 October 2011

REV. No. 0

MAKE: Eurocopter (Aerospatiale)
MODEL: AS350 Series, AS355 Series

CORRESPONDANCE TO:

(If other than applicant)

REGISTRATION: All Applicable

SERIAL No.: All Applicable

NATURE OF WORK: Installation of Side-Mounted External Cargo Basket

MODEL CERTIFICATION BASIS: FAR 27, Amendment 27-20, plus select sections of later Amendments (AS355NP basis of certification)
MODIFICATION CERTIFICATION BASIS: FAR 27, Amendment 27-20, plus select sections of later Amendments (AS355NP basis of certification)

Airworthiness Requirement	9	Subject for Compliance or Documentary Proof	Form of Substantiation	DOT	DAR Comments
Paragraph	Amd	t.			
Subpart B –	Flight				
27.27 27.29	20 20	Centre of Gravity Limits Empty Weight and Corresponding C of G	N/A Data specified on inst'n drawing	~ 2	No change from Type Approval.
27.45 27.51	21 20	Performance - General Takeoff	Flight Test	×)	
27.65	20	Climb: All Engines Operating	Flight Test Flight Test	×	
27.71	21	Glide Performance	Flight Test	x	
27.73	20	Performance at Min. Operating Speed	Flight Test	×	
27.75	20	Landing	Flight Test	X	
27.141	20	Flight Characteristics - General	Flight Test	1	11 New Zell
27.143	21	Controllability and Maneuverability	Flight Test	X >	
27.151	21	Flight Controls	Flight Test	X	Flight test in accordance with FTP940.03 and
27.161	21	Trim Control	Flight Test	X	flight test performed by Transport Canada
27.171	20	Stability – General	Flight Test		PER HQ Flight Test Report &
27.173	21	Static Longitudinal Stability	Flight Test	X	recommendation.
27.175	21	Demonstration of Longitudinal Stability	Flight Test	X	
27.177	21	Static Directional Stability	Flight Test	X	
27.241	20	Ground Resonance	Flight Test	X	
27.251	20	Vibration	Flight Test	× /	

Subject for Compliance or Documentary Proof Form of Substantiation

DOT DAR Comments

JbmA

Paragraph

Airworthiness triament

No change from Type Approval.	hoqen in Inemetste – A\N	Anticollision Light System	20	1041,72
No change from Type Approval.	N/A – statement in report	Position Light System Dihedral Angles	20	7851.72
X Finstallation does not block doors.	A\N	Emergency Exits	12	27.807
No cargo lamps	∀/N	Cargo and Baggage Compartments	50	(b)787.72
Cargo is external to helicopter.	A\N	Cargo and Baggage Compartments	20	(5)787.72
X Basket is a closed container.	Design	Cargo and Baggage Compartments	20	(d)787.72
XXX	Compliance with 23.301 through 307	Cargo and Baggage Compartments	20	(s)787.72
Installation does not block doors.	Α\V	Doors	20	27.783
₹x	sizylsnA	Values Fitting Factor	50	27.625
₹	Values used as per Mil-Hdbk-5J	Material Strength Properties and Design	20	27.613
X \ Design is easy to inspect.	Drawings	Inspection Provisions	20	27.611
₹1×	Drawings	Protection of Structure	20	609.72
X 🔀 Design is conventional.	Spriws10	Fabrication Methods	20	209.72
X X Materials used are specified in Mil-Hdbk-5J.	sgniwe10	Materials	20	27.603
X S Design is conventional.	sgniwsna	Design	20	109.72
4		and Construction	ubisa	Subpart D - De
X > 27.337 Maneuvering Load is Critical.	Compliance with 27.337	Emergency Landing Conditions - Down	50	(vi)8(d)193.72
X to occupants.	Ar-81.84 DA wai test and Air 13.13-18	Emergency Landing Conditions - Side	20	(iii) 5(4) 195.72
Forward deflection or failure of basket poses	A\N	Emergency Landing Conditions - Fwd	20	(ii)E(d)193.72
21 ^	Analysis and Test iaw AC 43.13-18	Emergency Landing Conditions – Up	20	27.561(b)3(i)
	Analysis and Test is A A A St 13-18	Emergency Landing Conditions	20	27,561
X OF I FER HO FIGHT TECT.	Flight Test	Main Rotor Structure	20	745.72
X \ Critical load factor in downward direction.	81-81.84 OA wai teeT bna eisylanA	Limit Maneuvering Load Factor - Positive	20	(5)788.72
	Analysis and Test iaw AC 43.13-18	Proof of Structure	20	27.307
	Analysis and Test iaw AC 43.13-18	Strength and Deformation	20	27.305
SIX.	Analysis	Factor of Safety	20	27.303
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	Compliance with 27.337 and 27.561	Loads - Inertia Loads	20	27.301
ΣÄX	sisylsnA	Loads — Air Drag Loads	20	27.301
₹\v	sisylsnA	th Requirements Loads — Air Drag Loads		

Airworthiness Requirement	5	Subject for Compliance or Documentary Proof	Form of Substantiation	DOT DAR	Comments
Paragraph	Amd				
Subpart G – 0	Operat	ting Limitations and Information			
27.1505	20	Never Exceed Speed	Flight Test, Flight Manual Supplement	×?	V _{N∈} limits as specified in the existing Flight Manual
27.1525	21	Kinds of Operation	Flight Manual Supplement	x JP	Limited to VFR only.
27.1529	20	Instructions for Continued Airworthiness	ICA Provided	X	
27.1557(a)	20	Miscellaneous Markings and Placards – Baggage Compartments	Placard on lid	×	>.
27.1557(b)	20	Miscellaneous Markings and Placards	N/A		
27.1557(c)	20	Miscellaneous Markings and Placards	N/A		
27.1557(d)	20	Miscellaneous Markings and Placards	N/A		
27.1581	20	Rotorcraft Flight Manual - General	Flight Manual Supplement	X)	
27.1583(c)	20	Operating Limitations – Weight and Loading Information	Flight Manual Supplement	×	per HQ F/T and recommenda
27.1585	21	Operating Procedures	Flight Manual Supplement	x (%)	pro di y i directioni
27.1587	21	Performance Information	Flight Manual Supplement	X \	
27.1589	20	Loading Information	Flight Manual Supplement & Placard	X	Placard installed on basket lid
CAR 527					
527.1093(b) (1)(ii)+(iii)		Induction System Icing Protection	N/A		No change from Type Approved configuration
527.1301-1		Rotorcraft Operations After Ground Cold Soak	N/A		No change from Type Approved configuration
527.1557(c) (3)		Miscellaneous Markings and Placards – Fuel Filler Openings	N/A		No change from Type Approved configuration
527.1581		Flight Manual - General	Flight Manual Supplement	XOS	SI / Imperial units provided
527.1583(h)		Operating Limitations – Ambient Temperature	N/A	7	No change from Type Approved configuration





1100-9700 Jasper Avenue Edmonton, Alberta T5J 4E6

November 19, 2010

Your file Votre reference 764

Our file Notre reference C-10-0807 SH08-16

Aero Design Ltd. 2013 39th Avenue North East Calgary, Alberta Canada, T2E 6R7

Dear Sir:

SUBJECT: REVISION TO SUPPLEMENTAL TYPE CERTIFICATE NO. SH08-16 – ISSUE 3

DATED OCTOBER 28, 2010 – INSTALLATION OF EXTERNAL ATTACHMENT PROVISIONS AND CARGO BASKET – EUROCOPTER AS350B, B1, B2, B3, BA, D, D1; EUROCOPTER FRANCE AS355E, F, F1, F2, N, NP ISSUED TO

AERO DESIGN LTD.

This Supplemental Type Certificate (STC) is issued in response to your application. Included with the STC are documents bearing the original Transport Canada signatures.

The transfer of these documents in the name of another person requires a prior approval from the Minister in accordance with Canadian Aviation Regulations (CAR) 521.357.

To accomplish this modification, the requirements of CAR 561 apply if parts are manufactured.

Embodiment of this modification is considered to be a maintenance activity and the requirements of CAR 571.06(4) will apply.

An STC holder is required to report any service problem experienced with their product. Therefore, should you be come aware of any defect, malfunction or failure resulting from the design change, it is your responsibility to submit a Service Difficulty Report to Transport Canada in accordance with CAR Part V, Subpart 91. Other Obligations as a Design Approval Document Holder are contained in CAR 521, Division VIII.

Yours truly,

J/Staal

Aircraft Certification Engineering Technologist

Prairie and Northern Region

Phone: 780-495-5227 Facs: 780-495-7963

Encl.



MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

APPENDIX A-3 NORMAL CATEGORY ROTORCRAFT - CAR 527

BLOCK 1

Name of the applicant for the design change approval:

Aero Design Ltd.

Description of the design change:

Installation of Quick Release Cargo Basket on Eurocopter AS350 & AS355 Series

Certification Basis of design change and revision date:

FAR 27, Amendment 27-20

CAR Standard A527.1(c) Program showing how changes to supplemental ICA made by the applicant or by the manufacturers of products and appliances installed in the aeroplane pursuant to the design change will be distributed:

Section 0-3 of Supplemental ICA (ICA 764.90)

Installation Drawing 76401, 77601, 78401, 78602, 78603

CAR Standard 513.05 (1) (g) (iv): Installation Instructions:

BLOCK 2

Note: Enter "N/A" when no supplemental ICA are needed.

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
A527.2 (a) Manual(s) (a) The Instructions for Continued Airworthiness must be in the form of a manual or manuals as appropriate for the quantity of data to be provided.	ICA ref: Eurocopter AS350/AS355 Maintenance Manuals	Supplemental ICA ref: Single Manual (ICA764.90)
A527.2 (b) Practical arrangement (b) The format of the manual or manuals must provide for a practical arrangement.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual	Supplemental ICA ref: Arranged in ATA format
A527.3 The Instructions for Continued Airworthiness must contain the following manuals or sections, as appropriate, and information:		
A527.3 (a) Rotorcraft maintenance manual or section		
A527.3 (a) (1) (Introduction) (1) Introduction information that includes an explanation of the rotorcraft's features and data to the extent necessary for maintenance or preventive maintenance.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: Section 0-1
A527.3 (a) (2) (Description) (2) A description of the rotorcraft and its systems and installations including its engines, rotors, and appliances.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: Section 0-5

MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
A527.3 (a) (3) Control & Operation (3) Basic control and operation information describing how the rotorcraft components and systems are controlled and how they operate, including any special procedures and limitations that apply.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: N/A
A527.3 (a) (4) Servicing (4) Servicing information that covers details regarding servicing points, capacities of tanks, reservoirs, types of fluids to be used, pressures applicable to the various systems, location of access panels for inspection and servicing, locations of lubrication points, lubricants to be used, equipment required for servicing, tow instructions and limitations, mooring, jacking, and levelling information.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 12	Supplemental ICA ref: N/A
A527.3 The Instructions for Continued Airworthiness must contain the following manuals or sections, as appropriate, and information:		
A527.3 (b) Maintenance Instructions.		
A527.3 (b) (1) Scheduling 1) Scheduling information for each part of the rotorcraft and its engines, auxiliary power units, rotors, accessories, instruments, and equipment that provides the recommended periods at which they should be cleaned, inspected, adjusted, tested, and lubricated, and the degree of inspection, the applicable wear tolerances, and work recommended at these periods. However, the applicant may refer to an accessory, instrument, or equipment manufacturer as the source of this information if the applicant shows that the item has an exceptionally high degree of complexity requiring specialized maintenance techniques, test equipment, or expertise. The recommended overhaul periods and necessary cross-references to the Airworthiness Limitations section of the manual must also be included. In addition, the applicant must include an inspection program that includes the frequency and extent of the inspections necessary to provide for the continued airworthiness of the rotorcraft.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 5	Supplemental ICA ref: Section 5-1
A527.3 (b) (2) Troubleshooting (2) Troubleshooting information describing probable malfunctions, how to recognize those malfunctions, and the remedial action for those malfunctions.	ICA ref: N/A	Supplemental ICA ref: N/A

MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
A527.3 (b) (3) Removal/replacement (3) Information describing the order and method of removing and replacing products and parts with any necessary precautions to be taken.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 25	Supplemental ICA ref: Section 25-1 thru 25-4
A527.3 (b) (4) General (4) Other general procedural instructions including procedures for system testing during ground running, symmetry checks, weighing and determining the center of gravity, lifting and shoring, and storage limitations.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 7 and 8	Supplemental ICA ref: Section 25-6
A527.3 (c) Access (c) Diagrams of structural access plates and information needed to gain access for inspections when access plates are not provided.	ICA ref: N/A	Supplemental ICA ref: N/A
A527.3 (d) Special inspections (d) Details for the application of special inspection techniques including radiographic and ultrasonic testing where such processes are specified.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 5	Supplemental ICA ref: Section 5-1
A527.3 (e) Protective treatment (e) Information needed to apply protective treatments to the structure after inspection.	ICA ref: Eurocopter Standard Practices Manual, Chapter 20	Supplemental ICA ref: Section 5-3
A527.3 (f) Fasteners, torque values, etc (f) All data relative to structural fasteners such as identification, discard recommendations, and torque values.	ICA ref: Eurocopter Standard Practices Manual, Chapter 20	Supplemental ICA ref: Section 25-7
A527.3 (g) Special tools (g) A list of special tools needed.	ICA ref: Eurocopter Tools Catalog	Supplemental ICA ref: N/A

MSI 53 - Review of Supplemental Instructions for Continued Airworthiness

BLOCK 3

Note: The statement in block 5 does not constitute an approval of the Airworthiness Limitations Section. Airworthiness Limitations differ from other maintenance tasks, in that they are mandatory, as a direct condition of the approval of the type design. They are therefore referenced directly in the approval document itself. However, they must also be included in the Supplemental Instructions for Continued Airworthiness.

A527.4 AWL - Separate Section 1 The Instructions for Continued Airworthiness must contain a section titled Airworthiness Limitations that is segregated and clearly distinguishable from the rest of the document. This section must set forth each mandatory replacement time, structural inspection interval, and related structural inspection procedure approved under 527.571. If the Instructions for ICA ref: Eurocopter AS350/AS355 Supplemental ICA ref: Chapter 4 Continued Airworthiness consist of multiple Maintenance Manual, Chapter 4 documents, the section required by this paragraph must be included in the principal manual. This section must contain a legible statement in a prominent location that reads: "The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister."

The Supplemental ICA referenced above comprises the complete listing of supplemental ICA necessary to show compliance with the regulatory standard

BLOCK 4 – Applicant Statement of Compliance

that supports this change in type design.

Applicants Signature:	Date:June 23. 2010
Applicants Name: E. Burgoin, P.Eng, DAR 290M	
BLOCK 5 – Minister's Statement of Acceptability	
The design change is adequately supported by existing ICA and/or supplemental ICA, as identified above and is accept	
Reviewer's Name: J. STAAL Phone # 780-495-5227 Email: etc.gc.ca Mail Routing Symbol	RAED
Signature: Quality Date: 26 October 2010	NAPA Number
	C-10-0807

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	_	100	т.	20	120

P.2 1

	MODIFICATION APPROV					DRIVI	MQD764
1.	NAME AND ADDRESS OF APPLICANT:		IDENTIFICATION	OF PRODU		051	
	AERO Design Ltd. 2013 - 39th Avenue NE Calgary, Alberta T2E 6R7	MAH	urocopter			DEL: AS350 (al AS355 (al	
	ALL CORRESPONDANCE TO: AERO Design Ltd. 2013 - 39th Avenue NE Calgary, Alberta T2E 6R7		RIAL No.:			GISTRATIO	
3,	REQUEST FOR:						
	A. SUPPLEMENTAL TYPE CERTIFICATE (STC)						
	B. STC/STA REVISION	\boxtimes	STC/STA No.	H08-16	C-	10-080	7
	C. LIMITED SUPPLEMENTAL TYPE CERTIFICATE (LSTC)						
	D. LIMITED STC/STA REVISION		LSTC/LSTA No				
	E. F.A.A. SUPPLEMENTAL TYPE CERTIFICATE	l1	40.10/00/1/11/1				
	F. F.A.A. STC REVISION		STC No.				
	G. FAMILIARIZATION OF F.A.A. STC		STC No.				
	H. REPAIR DESIGN APPROVAL (RDC)						
	I. PARTS DESIGN APPROVAL (PDA)						
4.	TITLE OF MODIFICATION OR REPAIR! Quick Release Cargo Basket Installation						
5.	BRIEF DESCRIPTION OF MODIFICATION OR REPAIR:						
7.	APPLICABLE TYPE APPROVAL (TA) OR TYPE CERTIFICATE A. TA NO. H-83/H-87 B. TC No. PROPOSED BASIS OF APPROVAL:		D. OTHER				
	A. SAME AS TA B. SAME AS TO	(OTHER [(Please	specify)		
8.				REQU	JIRED	FOR	DOT USE ON
	DOCUMENTATION CHECKLIST						RECEIVED
				YES	NO	YES	NO
	COMPLIANCE PROGRAM				X		
	MASTER DRAWING LIST		1	X			
_	FLIGHT MANUAL SUPPLEMENT MAINTENANCE MANUAL SUPPLEMENT			X			
	INSTRUCTIONS FOR CONTINUING AIRWORTHINESS				X		
_	ENGINEERING REPORTS			X			
	DESIGN DRAWINGS			^	X		
	MANUFACTURE DRAWINGS & INSTALLATION INSTRUCTION	S		X			
	ELECTRICAL LOAD ANALYSIS				X		
	DRAFT STC, LSTC OR RDA				X		
	WEIGHT AND MOMENT CHANGE			Х			
	FLIGHT TEST DATA				Х		
	OTHER (Specify)						
9.	APPLICANT'S REMARKS:						
10.	In addition to the payment of Aircraft Certification approval fees as prescribe incremental expenses as in Aviation Regulation Directive No. 3, or equivale PER:	nt, as app	adian Aviation Regula olicable For further d	ations (CAR) s etails governing	Section 104, I	agree to reimb cry, refer to AM	AA 513/4
	SIGNATURE OF APPLICANTS	TITLE	WALLETT	lambinism in the engineering of			27 July, 2010
11.		1 = 10					OATE
	2. Abunl					261	Det Zoic
	BIGNATURE OF REGIONAL ENGINEERING TELL						DATE



Department of Transport

Supplemental Type Certificate

This approval is issued to:

Number: SH08-16

Aero Design Ltd.

Issue No.:

April 11, 2008

Calgary, Alberta

Approval Date: Issue Date:

October 28, 2010

Canada T2E 6R7

Responsible Office:

Prairie and Northern

Aircraft/Engine Type or Model:

2013 39th Avenue North East

EUROCOPTER AS 350 B, AS 350 B1, AS 350 B2, AS 350 B3,

AS 350 BA, AS 350 D, AS 350 D1,

EUROCOPTER FRANCE AS 355 E, AS 355 F, AS 355 F1, AS

355 F2, AS 355 N, AS 355 NP

Canadian Type Certificate or Equivalent:

EUROCOPTER AS 350: H-83

EUROCOPTER FRANCE AS 355: H-87

Description of Type Design Change:

Installation of External Attachment Provisions and Cargo

Basket.

Installation/Operating Data, Required Equipment and Limitations:

Configuration A - External Attachment Provisions Only:

Installation of External Attachment Provisions to be completed in accordance with Transport Canada approved, AERO Design Ltd. Document Control List, DCL786-1, Revision 3, dated 16 June 2010, or later approved revision.

External Attachment Provisions installed in accordance with DCL786-1 may remain installed if the basket installation is removed.

Configuration B - External Cargo Basket (Short Basket):

Installation of Configuration A, External Attachment Provisions, is a prerequisite for installation of Configuration B, External Cargo Basket Installation. Installation of Quick Release Cargo Basket to be completed in accordance with Transport Canada approved, AERO Design Ltd. Document Control List, DCL776-1, Revision 3, dated 16 June 2010, or later approved revision.

...See Continuation Sheet



Conditions: This approval is only applicable to the type/model of aeronautical product specified therein. Prior to incorporating this modification, the installer shall establish that the interrelationship between this change and any other modification(s) incorporated will not adversely affect the airworthiness of the modified product.

> D.S. Austen For Minister of Transport

> > Canaca

(Continuation Sheet)

Number: SH08-16 Issue 3

NOTE: THIS ADDENDUM SHALL REMAIN PART OF THE CERTIFICATE REFERRED TO THEREIN

Configuration C - External Cargo Basket (Short Basket - Alternate):

-Removed-

Configuration D - External Cargo Basket (Medium Basket):

Installation of Configuration A, External Attachment Provisions, is a prerequisite for installation of Configuration D, External Cargo Basket Installation. Installation of Quick Release Cargo Basket to be completed in accordance with Transport Canada approved, AERO Design Ltd. Document Control List, DCL764-1, Revision 3, dated 16 June 2010, or later approved revision.

Configuration E - External Cargo Basket (Long Basket)

Installation of Configuration A, External Attachment Provisions, is a prerequisite for installation of Configuration E, External Cargo Basket Installation. Installation of Quick Release Cargo Basket to be completed in accordance with Transport Canada approved, AERO Design Ltd. Document Control List, DCL784-1, Revision 3, dated 16 June 2010, or later approved revision.

Configuration F - External Cargo Basket (Long Basket - Alternate) -Removed-

Cargo Basket Modifications:

Modifications to the Cargo Basket configurations are eligible in accordance with Transport Canada approved, AERO Design Ltd., Document Control List DCL704, Revision 6, dated 29 April 2010, or later approved revision. Eligibility limitations are noted on the drawings.

Data Pertinent to All Configurations:

Transport Canada approved, AERO Design Ltd. Flight Manual Supplement FMS764.91, Revision 2, dated 16 June 2010, or later approved revision is required with this installation.

Transport Canada accepted, AERO Design Ltd. Instructions for Continued Airworthiness ICA764.90, Revision 3, dated 12 April 2010, or later accepted revision is required with this installation.

Basis of certification remains as defined in the applicable Type Certificate Data Sheets.

- End -

	DOC	UMENT CONTENT	REVISION
INSTALLATION DOCUMENTS			
78602	Attachment Provis	sions Installation	0
78603	Attachment Provis (Eurocopter Pod C	0	
ICA764.90	Instructions for Co	3	
FABRICATION DOCUMENTS			
DCL786-3	Document Control	List - Provision Assembly	3
PPROVAL: Transport Transports Carrada AIRCRAFT CERTIFICATION	ORIGINAL DATE: 05 March 2008 REVISION DATE: 18 June 2010	AERO DESIC 2013 – 39 th Ave NE, Caigary, Ph. (403) 250-8 Fax. (403) 250-8	Alberta, T2E 6R7 027
PPROVAL: Transport Transports Carrada Carrada	05 March 2008 REVISION DATE:	2013 – 39 th Ave NE, Calgary, Ph. (403) 250-8	Alberta, T2E 6R7 027 1933 AS355 Series ision

DOCUMENT NO.	DOC	UMENT CONTENT	REVISION
FABRICATION DOCUMENTS 78620 78621 78633 78634	Clamp Assembly Eurocopter Pod Co Aft Beam Fabricati Forward Beam Fab	3 0 0	
ENGINEERING DOCUMENTS ER764.01 TR764.02 FTP764.03 ER764.04 ER764.05	Engineering Repor Load Test Plan/Re Flight Test Plan/Re Engineering Repor Engineering Repor	port t	0 0 0
PPROVAL: Transports Conses Conses Conses Conses ABCHAFT CERTIFICATION DIVISION APPROVED	ORIGINAL DATE: 06 March 2008 REVISION DATE: 16 June 2010 SHEET 1 OF 1	AERO DES 2013 ~ 39 th Ave NE, Calg Ph. (403) 21 Fax. (403) 2 Eurocopter AS350	ary, Alberta, T2E 6R7 50-8027 50-8933 & AS355 Series
		Eurocopter AS350 & AS355 Basket Installation Provi Assembly	
Popri Data 2008-04-11 Sous No. 3		ASSEII	

DOCUMENT NO.	DOC	UMENT CONTENT	REVISIO
INSTALLATION DOCUMENTS			
77601	Quick Release Ca	argo Basket Installation	3
ICA764.90		ontinued Airworthiness	3
FM\$764.91	Flight Manual Sup	2	
FABRICATION DOCUMENTS			
DCL776-3	Document Control	List - Basket Assembly	2
		Clat - Edshal Asabilibly	2
	1		
ENGINEERING DOCUMENTS			
	DP(GINA) DATE.		
PPROVAL:	ORIGINAL DATE:	AERO DESI	GN LTD.
PPROVAL:	06 March 2008	AERO DESI	, Alberta, T2E 6R7
PPROVAL: Transport Transports Canada Canada		AERO DESI 2013 – 39 th Ave NE, Calgary Ph. (403) 250- Fax. (403) 250	/, Alberta, T2E 6R7 -8027
APPROVAL: Transport Transports Canada Canada AERCRAFT CERTIFICATION DIVISION	06 March 2008 REVISION DATE:	2013 – 39 th Ave NE, Calgary Ph. (403) 250- Fax. (403) 250	/, Alberta, T2E 6R7 8027 -8333
PPROVAL: Transport Transports Canada Canada AERCRAFT CERTIFICATION	06 March 2008 REVISION DATE: 16 June 2010	2013 – 39 th Ave NE, Calgary Ph. (403) 250- Fax. (403) 250 Eurocopter AS350 &	/, Alberta, T2E 6R7 -8027 -8333
PPROVAL: Transport Transports Canada Canada AFRICATION DIVISION AFPROVED By D-5. Cluster	06 March 2008 REVISION DATE:	2013 – 39th Ave NE, Calgary Ph. (403) 250- Fax. (403) 250 Eurocopter AS350 & Quick Release Ca	/, Alberta, T2E 6R7 -8027 -8333 A AS355 Series Brgo Basket
AFPROVED By D-5. Cluster Appril No. SHO8-16	06 March 2008 REVISION DATE: 16 June 2010	2013 – 39 th Ave NE, Calgary Ph. (403) 250- Fax. (403) 250 Eurocopter AS350 &	, Alberta, T2E 6R7 -8027 -8333 A AS355 Series argo Basket on
APPROVAL: Transport Transports Canada Canada AIRCRAFT CERTIFICATION DIVISION APPROVED By D-5. Cluster Appril No. 5H08-16 Appril Date 2008-04-11	06 March 2008 REVISION DATE: 16 June 2010 SHEET 1 OF 1	2013 – 39th Ave NE, Calgary Ph. (403) 250- Fax. (403) 250 Eurocopter AS350 & Quick Release Ca Installati	/, Alberta, T2E 6R7 -8027 -8333 A AS355 Series Brgo Basket
APPROVAL: Transport Transports Canada Canada AECRAFT CERTIFICATION DIVISION APPROVED By D-5-Cluster Appril No. SHO8-(Lo	06 March 2008 REVISION DATE: 16 June 2010 SHEET 1 OF 1	2013 – 39th Ave NE, Calgary Ph. (403) 250- Fax. (403) 250 Eurocopter AS350 & Quick Release Ca	, Alberta, T2E 6R7 -8027 -8333 A AS355 Series argo Basket on

DOCUMENT NO.	DOC	UMENT CONTENT	REVISION
FABRICATION DOCUMENTS 77610 77611 77612 76421 76422 77627 69823 49215 49216 84255 84261 84262 84265 84267 84272 36273 36274 36275 36277 36278 36280	Basket Assembly Basket Body Asset Lid Assembly Hoop Hoop Assembly Placard Lug Spacer Spacer Handle Assembly Handle Bar Assem Handle Bracket Ast Handle Bracket Bushing Lid Bracket Bushing Bushing Bushing Handle Bar Spring Brace Assembly	bty	1 1 1 0 0 0 1 0 0 0 0 0 0 1 2 3 0 2 2
ENGINEERING DOCUMENTS ER764.01 TP764.02 FTP764.03 ER764.04 ER784.05	Engineering Report Test Plan/Report Flight Test Plan/Rep Engineering Report Engineering Report	port	0 0 0
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APPROVED By D. S. Austen Appri No. SHOB-16	SHEET 1 OF 1	Eurocopter AS350 & A: Quick Release Carg Basket Assem	o Basket
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ENGINEERING DOCUMENTS ER764.01 TP764.02 FTP764.03 ER764.04 ER764.05	Engineering Report Test Plan/Report Flight Test Plan/Re Engineering Report Engineering Report	port	0 0 0 0
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APPROVED Sy D. 5-Custon Aprel No. SHO8-16	SHEET 1 OF 1 Eurocopter AS350 & AS355 Quick Release Cargo Ba Basket Assembly		Basket
Appril Date 2008-04-11 Issue No. 3 Saus Date 2010-10-28 YY-MM-DD	DC		3

DOCUMENT NO.	DOC	JMENT CONTENT	REVISIO
INSTALLATION DOCUMENTS.			
78401	Quick Release Car	go Basket Installation	3
ICA764.90	Instructions for Cor	ntinued Airworthiness	3
FM\$764.91	Flight Manual Supp	olement	2
FABRICATION DOCUMENTS			
DCL784-3	Document Control (List - Basket Assembly	3.
ENGINEERING DOCUMENTS			
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APPROVAL:	06 March 2008 REVISION DATE:	2013 – 39th Ave NE, Calgary, Ph. (403) 250-1	Alberta, T2E 6R7 8027 8333 AS355 Series

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Appril Date 2006 - 04 - 11	DC	L784-3	Rev.

DOCUMENT NO.	DOC	JMENT CONTENT	REVISION
FABRICATION DOCUMENTS			
70401	Open Forward En (Bell 206L/407 Fix Quick Release On	ed and McDonnell Douglas MD800N	
70402	Lid Door Modificat	on	15.
70403	Auxiliary Latch Mo	dification	3.
70404	Open Forward Eng (Ball 206L/407 Qui	Modification ck Release Only)	
70405	Lid Step Modificati	on	
70406	Open Forward End (Eurocopter AS35) Release Only)	Modification MAS355 and Bell 2063 Quick	1
70497	Open Forward End (Eurocopter EC135	Modification Quick Release Only)	6
70408 70428 70438	Installation, Hange Assembly, Hanger Pags, Hanger Whe	Wheel	000
ENGINEERING DOCUMENTS			
ER704.02	Engineering Report		6
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E. STROTT	ORIGINAL DATE: 10 May 2006 REVISION DATE:	AERO DESIGN 2013 – 39" Ave NE, Calgary, Albe	LTD ria, 12E 6R7
LIE.	April 29, 2010	Fax. (403) 250 8333	
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AS350 & AS355 SERIES HELICOPTERS

ROTORCRAFT FLIGHT MANUAL SUPPLEMENT for the INSTALLATION of the AERO DESIGN QUICK RELEASE CARGO BASKET

CARGO BASKET MODELS: 76401, 77601, 78401

TCCA Supplemental Type Certificate No. SH08-16 FAA Supplemental Type Certificate No. SR02680NY

Sections I, II, III and IV of this document comprise the Transport Canada Approved sections of this Flight Manual Supplement. Compliance with Section I, Limitations, is mandatory. Section V and any subsequent sections if present are Unapproved and are provided for information only.

The information and data contained in this Filight Manual Supplement supersede or supplement that contained in the basic Approved Flight Manual for the Eurocopter AS350 and AS355 Series Helicopters when fitted with the Quick Release Cargo Basket Installation and/or Quick Release Maintenance Step Installation. For limitations, procedures and performance not listed in this Flight Manual Supplement refer to the Approved Right Manual and other approved Flight Manual Supplements.



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1	Limitations	: 3
11	Normal Procedures	3
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V	Weight and Balance	4
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Record of Revisions

Revision	Issue Date	Pages Revised	Date Inserted	Ву		A
0	25 Feb, 2008	None				o month of the
1	29 Jan, 2010	All				
2	16 June 2010	1, 2, 4-12				Total Control
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I LIMITATIONS

- The maximum load in the AERO Design Ltd. Quick Release Cargo Basket Models 764 and 784 is 250 lb. (113 kg). The maximum load in the AERO Design Ltd. Quick Release Cargo Basket Model 776 is 300 lb. (135.7 kg).
- Only one basket may be installed on the helicopter, on the right of left side.
- Flight operations limited to VFR conditions with AERO Design Ltd.
 Quick Release Cargo Basket installed.
- V_{NE} is unchanged from the basic rotorcraft.
- AS355NP only: For Category A operations, the basket must be removed. Mounting provisions may be left in place.

II NORMAL PROCEDURES

- 1. Pre-flight inspections:
 - Ensure that all cargo stored in the cargo basket is properly tied down and secured for flight.
 - Ensure that the lid of cargo basket is closed and secured.
 - c) Ensure the basket is looked in postion on the beams. Pull up on the forward end of the basket to check.

CAUTION

It is possible to exceed the lateral centre of gravity limits of the rotorcraft under some loading conditions. Pilots must ensure that lateral C of G is within limits when loading the basket.

III EMERGENCY PROCEDURES

No change from basic Approved Flight Manual.

IV PERFORMANCE

- Cruise performance and range will be reduced by approximately 8
 percent with the Cargo Basket Installed.
- AEO climb performance will be reduced by up to 150 fpm.

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V WEIGHT AND BALANCE

This section contains weight and balance information for cargo basket models 76401, 77601, and 78401. Each model has multiple configurations. Refer to the weight and balance information applicable to model and configuration installed.

Longitudinal and Lateral moment arms for Cargo are given only for the center of the Cargo Basket. Due to the length of the basket, some loading arrangements may require that actual moment arms be measured, to determine the correct moments about the center of gravity.

CAUTION:

It is possible to exceed lateral CG limits in some configurations.

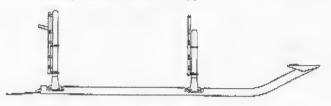
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1. Configuration 786 - Mounting Provisions Only

The following weight and balance is for the mounting provisions installed in accordance with drawing 78602 or 78603 as applicable.



Standard P/N Description Weight Longitudinal arm moment am In-lb lb in 78602-01-01 Low Right Hand Provisions 6.4 135.6 866.0 37.2 78602-02-01 High Right Hand Provisions 6.4 135.6 866.0 36.5 Right Hand Eurocopter Pod 78603-01-01 6.8 135.4 921.0 38.8 Compatible Provisions 78602-01-02 Low Left Hand Provisions 238.0 6.4 135.6 866.0 -37.2 78602-02-02 High Left Hand Provisions 6.4 135.6 866.0 -36.5 Left Hand Eurocopter Pod 78603-01-02 6.8 135.4 921.0 -38.8 Compatible Provisions

		Metric				
P/N:	Description	Weight	Longi	tudinal	Lateral	
		kg	arm mm	moment mm-kg	arm	molinent
78502-01-01	Low Right Hand Provisions	2.9	3443.0	9970.6	944.6	2785.4
78602-02-01	High Right Hand Provisions	2.9	3443.0	9970.6	928.1	2687.6
78603-01-01	Right Hand Eurocopter Pod Compatible Provisions	3.1	3440.1	10584.8	984.6	3629.6
78602-01-02	Low Left Hand Provisions	2.9	3443.0	9970.6	944.6	-2735.4
78602-02-02	High Left Hand Provisions	2.9	3443.0	9970.6	-928.1	-2697.6
78603-01-02	Left Hand Eurocopter Pod Compatible Provisions	3.1	3440.1	10584.8	-984.6	-3029 6

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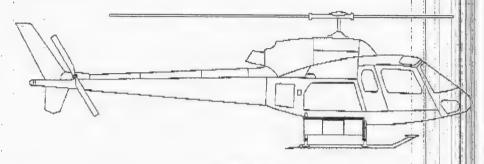
Page 5

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2. Configuration 776 (Short Basket)

The following weight and balance is for cargo baskets installed in accordance with drawing 77601.



Standard

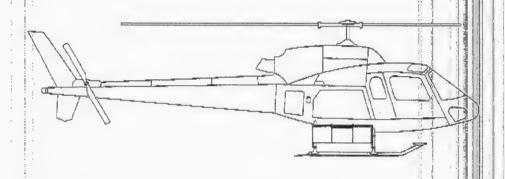
					1 1 1 1 1 1 1		
P/N	Description	Weight	Longitudinal		Lateral		
		lb	arm in	tnemom di-ni	arm	moment in-fo	
77601-01-01	Low Right Hand Installation	41.4	135.9	5627.5	45.9	1900.5	
77601-02-01	High Right Hand Installation	41.4	135.9	5627.5	45.1	1868.3	
77601-03-01	Eurocopter Pod Compatible Right Hand Installation	41.8	135.9	5681.0	47.8	1998.1	
	Maximum Cargo (RH)	300.0	135.9	40770.0			
77601-01-02	Low Left Hand Installation	41.4	105.0	for t	ue in	19005	
77001-01-02	Low Left Hand Installation	41.4	135.9	5627.5	45.9	-11900.5	
77601-02-02	High Left Hand Installation	41.4	135.9	5627.5	-45	1868.3	
77601-03-02	Eurocopter Pod Compatible Left Hand Installation	41.8	135.9	5681.0	-47.8	-1996.1	
•	Maximum Cargo (LH)	300.0	135.9	40770.0			
					. 1	0 11	

*Lateral arm is same as basket configuration. Lateral moment is calculated with lateral arm.

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Metric

		MEHIC			: 4	48 8 38 11 1
P/N	Description	Weight	Longitudinal		Late	eral leave
			arm	moment	arm	moment
		kg	माध	mm-kg	mm. 1	mm-kg
77601-01-01	Low Right Hand Installation	18.7	3452.6	5627.5	1166.0	21842.9
77601-02-01	High Right Hand Installation	18.7	3452.6	5627.5	1146.3	21473.2
77601-03-01	Eurocopter Pod Compatible Right Hand Installation	18.9	3452.6	5681.0	1212.9	22941.6
	Maximum Cargo (RH)	195.7	3452.6	468768.7		
77601-01-02	Low Left Hand Installation	18.7	3452.6	5627.5	-1166.0	1-21842.9
77601-02-02	High Left Hand Installation	18.7	3452.6	5627.5	-1146.3	-21473.2
77601-03-02	Eurocopter Pod Compatible Left Hand Installation	18.9	3452.6	5681.0	-1212.9	-22941.6
	Maximum Cargo (LH)	135.7	3452.6	468768.7		

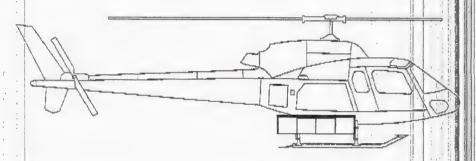
*Lateral arm is same as basket configuration. Lateral moment is calculated with lateral arm.

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3. Configuration 764 (Medium Basket)

The following weight and balance is for cargo baskets installed in accordance with drawing 76401.



Standard

P/N	Description	Weight	Longitudinal		Later	al III
1			am	moment	arn	потеп
:		也	in	in-la	iia .	n-la
76401-01-01	Low Right Hand Installation	51.4	144.0	7401.5	46.7	2402.5
76401-02-01	High Right Hand Installation	51.4	144.0	7401.5	46.0	2362.3
76401-03-01	Eurocepter Pod Compatible Right Hand Installation	51.8	143.9	7455.0	48.6	2518.1
	Maximum Cargo (RH)	250.0	144.0	36000.0	1	
					1 .	1111
76401-01-02	Low Left Hand Installation	51.4	144.0	7401.5	-46.7	-2402.5
76401-02-02	High Left Hand Installation	51.4	144.0	7401.5	-46.0	-2362.3
76401-03-02	Eurocopter Pod Compatible Left Hand Installation	51.8	143.9	7455.0	-48.6	-2518.1
	Maximum Cargo (LH)	250.0	144.0	36000.0	1	1

^{*}Lateral arm is same as basket configuration. Lateral moment is calculated with lateral arm.

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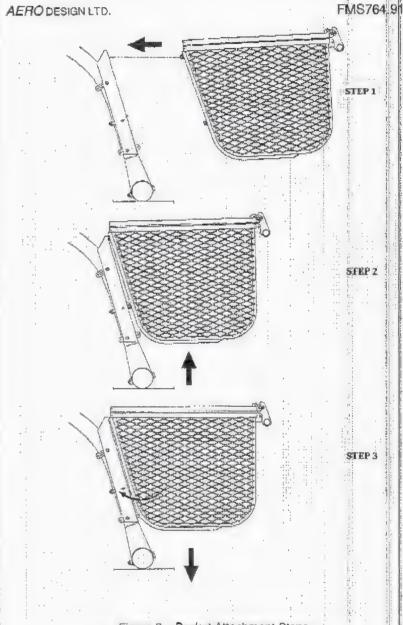


Figure 2 – Basket Attachment Steps (Installation instructions typical for all configurations):

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- 2. Removal Refer to Figure 1 and Figure 2.
 - a) Pull knob at bottom end of forward beam and lift basket until attachment fittings are free of keyways.
 - Rotate basket up until lower aft attachment fitting is free of keyway.
 Rest forward end of basket on floor.
 - Slide basket forward and raise basket until upper aft attachment fitting is free of keyway.

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VI INSTALLATION / REMOVAL INSTRUCTIONS

Cargo Baskets

The beams are installed in accordance with drawing 78602 or 78603 as applicable. The basket is installed in accordance with drawing 76401, 77601 or 78401, as applicable. Removal of the basket leaving the beams in place is an approved configuration for flight. Logbook entry indicating installation or removal of basket and which weight and balance amendment is in effect is required when basket is installed or removed.

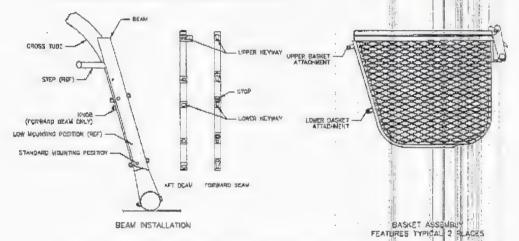
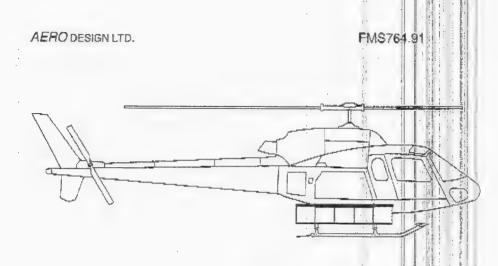


Figure 1 – Basket Attachment Features (Low beam installation shown. Beam attachment features typical for low and high beam installations)

- 5. Installation Refer to Figure 1 and Figure 2.
 - Set basket upper aft basket attachment into upper keyway in aft beam.
 Forward end of basket may rest on floor.
 - Lift basket from forward end, slide lower aft attachment into keyway on aft beam.
 - At forward attachment hoop, lift basket until lower attachment fitting hits stop.
 - d) Push fitting into keyway and slide basket down until locked.

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T.		Metric			41 11 112 :	1 Fil. 1
P/N	Description	Weight	Long	itudinal 1	Late	ral 🔠 1
		kg	arm mm	moment mm-kg	am	moment mm-kg
78401-01-01	Low Right Hand Installation	28.9	3453.3	99847.5	1203.1	34787.1
78401-02-01	High Right Hand Installation	28.9	3453.3	99847.5	1183.2	34210.6
78401-03-01	Eurocopter Pod Compatible Right Hand Installation	29.1	3452.9	100461.7	1251.2	35403.3
	Maximum Cargo (RH)	113.1	3453.3	390568.2		
			•			1 2
78401-01-02	Low Left Hand Installation	28.9	3453.3	99847.5	-1203.1	-34787.1
78401-02-02	High Left Hand Installation	28.9	3453.3	99847.5	-1183.2	-34210.6
78401-03-02	Eurocopter Pod Compatible Left Hand Installation	29.1	3452.9	100461.7	-1251.2	-36403.3
i.	Maximum Cargo (LH)	113.1	3453.3	390568.2		1 4
					1 1 1 1	

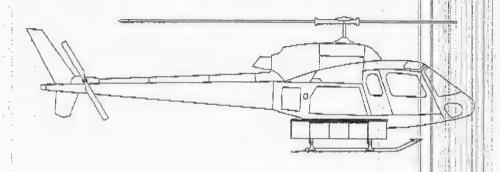
^{*}Lateral arm is same as basket configuration. Lateral moment is calculated with lateral arm.

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4. Configuration 784 (Long Basket).

The following weight and balance is for cargo baskets installed in accordance with drawing 78401.



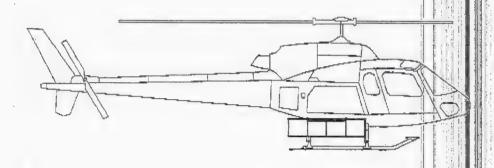
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		AT CELE PORTINE			16 11 17 2 2 7 11 2	
P/N	Description	Weight	Longitudinal		Lateral	
			arm	moment	arm moment	
		lb	in	in-lb	in lin lb	
78401-01-01	Low Right Hand Installation	63.9	136.0	8687.5	47.4 3026.8	
78401-02-01	High Right Hand Installation	63.9	136.0	8687.5	46.6 2976.6	
78401-03-01	Eurocopter Pod Compatible Right Hand Installation	64.3	135.9	8741.0	49.3 3167.4	
	Maximum Cargo (RH)	250,0	136.0	34000.0		
78401-01-02	Low Left Hand Installation	63.9	136.0	7401.5	-47.4 -3026.8	
78401-02-02	High Left Hand Installation	63.9	136.D	7401.5	-46.6 -2978.6	
78401-03-02	Eurocopter Fod Compatible Left Hand Installation	64.3	135.9	7455.0	-49.3 -3167.4	
	Maximum Cargo (LH)	250.0	136.0	34000.0		
					- H	

^{*}Lateral arm is same as basket configuration. Lateral moment is calculated with lateral arm.

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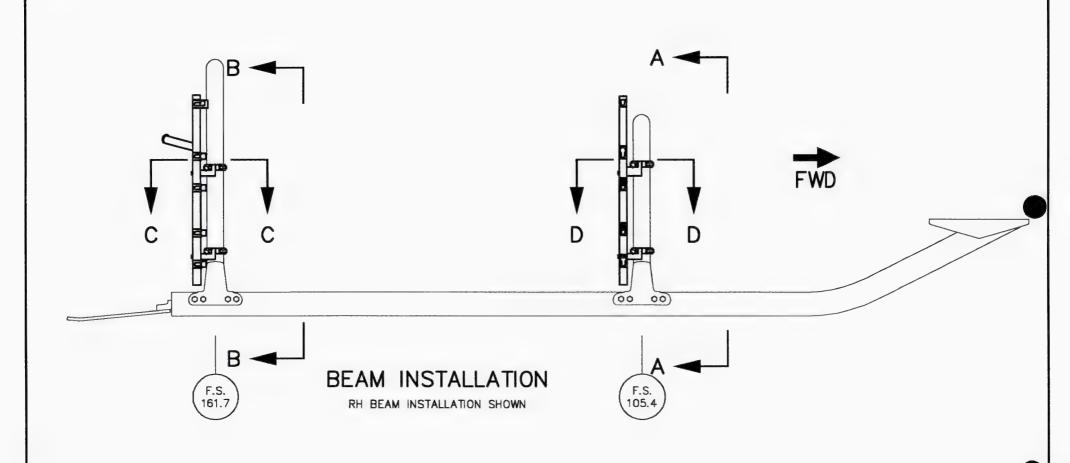


Metric

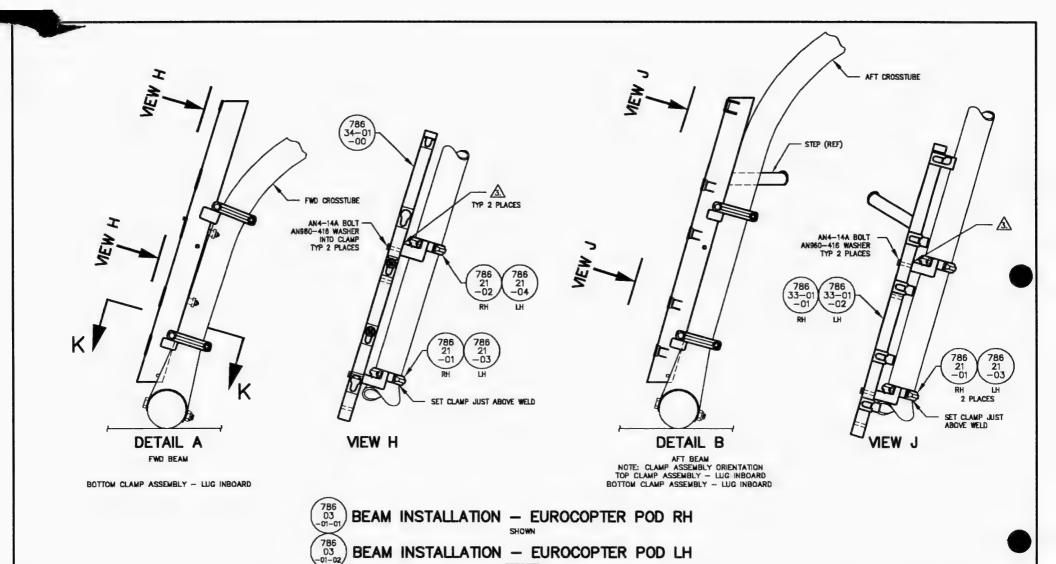
		Metric			1 1 11	## P.5 .
P/N Description	Description	Weight	Long	itudinal	Later	
		kg	arm mm	moment mm-kg	arm mm	moment mm-kg
76401-01-01	Low Right Hand Installation	23.3	3657.6	85067.2	187.2	27812.4
76401-02-01	High Right Hand Installation	23.3	3657.6	85067.2	1167.4	27150.9
76401-03-01	Eurocopter Pod Compatible Right Hand Installation	23.4	3655.5	85681.4	1234.7	28941.1
1	Maximum Cargo (RH)	113.1	3657.6	413674.6		
4						
76401-01-02	Low Left Hand Installation	23.3	3657.6	85067.2	-1187.2	-27612.4
76401-02-02	High Left Hand Installation	23.3	3657.6	85067.2	-1167.4	27150.9
76401-03-02	Eurocopter Pod Compatible Left Hand Installation	23.4	3655.5	85681.4	-1234.7	28941.1
	Maximum Cargo (LH)	113.1	3657.6	413674.6		
						4

^{*}Lateral arm is same as basket configuration. Lateral moment is calculated with lateral arm.

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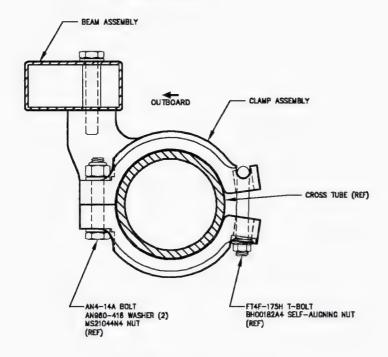
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EUROCOPTER AS350 & AS355 SERIES EUROCOPTER POD COMPATIBLE ATTACHMENT PROVISIONS INSTALLATION

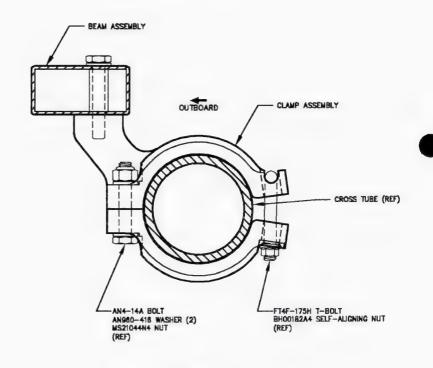
SCALE 1:8	DWG. SIZE	DWG. NO.	REV.
SHEET 2 OF 4	A4	78603	0

LOCATION: UPPER AFT LOWER AFT LOWER FORWARD LOCATION: UPPER FORWARD



DETAIL C

CLAMP ORIENTATION
RH SIDE SHOWN, LH SIDE OPPOSITE
SCALE: 1:2



DETAIL D

CLAMP ORIENTATION
RH SIDE SHOWN, LH SIDE OPPOSITE
SCALE: 1:2

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DATE
23 APR 2010

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x.xx ±0.03 x.x ±0.1

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EUROCOPTER AS350 & AS355 SERIES EUROCOPTER POD COMPATIBLE ATTACHMENT PROVISIONS INSTALLATION

SCALE 1:8	DWG. SIZE	DWG. NO.	REV.
SHEET 3 OF 4	A4	78603	0

	REV.	DESCRIPTION OF CHANGE	INITIALS	DATE
[0	INITIAL ISSUE — CREATED FROM 78601		

NOTES:



ATTACHMENT OF ANY EQUIPMENT TO EXTERNAL ATTACHMENT PROVISIONS REQUIRES TRANSPORT CANADA APPROVAL.

2. TORQUE AN4 BOLTS TO 50-70 INCH-POUNDS.

3. SHIM USING COMMERCIAL 1/4" STAINLESS STEEL FENDER WASHERS IF REQUIRED. REFER TO ICA764.90 FOR INSTRUCTIONS.

- 4. REFER TO ICA764.90 FOR WEIGHT AND BALANCE INFORMATION.
- 5. THIS CONFIGURATION IS REQUIRED ON HELICOPTERS THAT HAVE BEEN MODIFIED WITH EUROCOPTER SIDE BAGGAGE COMPARTMENT EXTENDER.
 THIS CONFIGURATION IS OPTIONAL ON HELICOPTERS THAT DO NOT HAVE SIDE BAGGAGE COMPARTMENT EXTENDER.
 THIS CONFIGURATION IS OPTIONAL ON HELICOPTERS THAT HAVE BEEN MODIFIED WITH DART SIDE BAGGAGE COMPARTMENT EXTENDER.

A/R	A/R			1/4" STAINLESS STEEL FENDER WASHER
4	4	AN4-14A		BOLT
1		78633-01-02	80	AFT BEAM ASSEMBLY (LEFT HAND)
	1	78633-01-01	07	AFT BEAM ASSEMBLY (RIGHT HAND)
1	1	78634-01-00	06	FORWARD BEAM ASSEMBLY
1		78621-04	05	CLAMP ASSEMBLY (LH)
3		78621-03	04	CLAMP ASSEMBLY (LH)
	1	78621-02	03	CLAMP ASSEMBLY (RH)
	3	7862101	02	CLAMP ASSEMBLY (RH)
		78602-01-02	01	BEAM INSTALLATION - LH EUROCOPTER POD
		78602-01-01	01	BEAM INSTALLATION - RH EUROCOPTER POD
-01-02	-01-01	PART NO.	ITEM	DESCRIPTION
QTY	QTY		LIS	T OF MATERIALS

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DRAWN: JEFF CLARKE 23 APR 2010

CHECKED: E. BURGOIN

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DECIMALS ANGLES
X.XXX ±0.010 ±1/2°

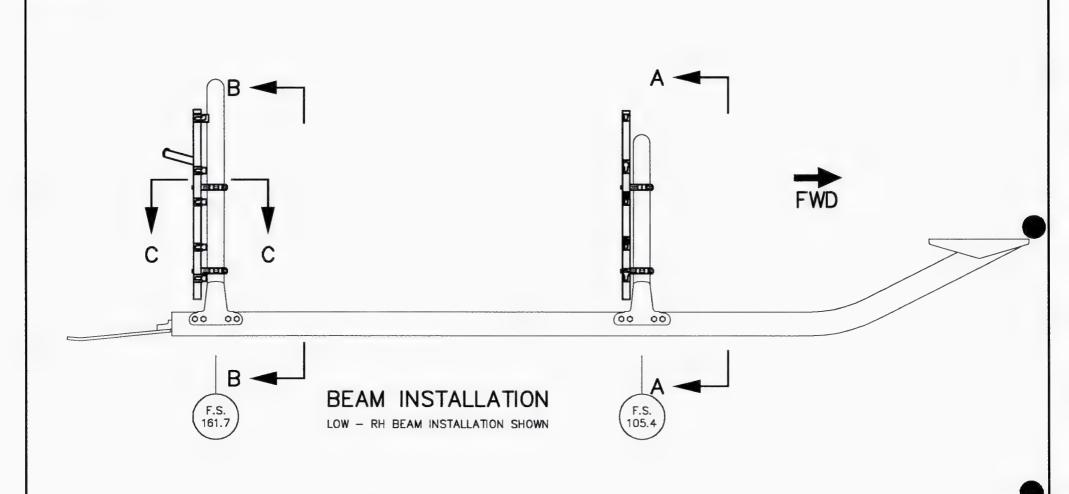
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EUROCOPTER AS350 & AS355 SERIES EUROCOPTER POD COMPATIBLE ATTACHMENT PROVISIONS INSTALLATION

SCALE 1 : 8 DWG. SIZE DWG. NO. SHEET 4 OF 4 A4 78603 0



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APPROVALS	DATE
DRAWN: JEFF CLARKE	23 APR 2010
CHECKED: E. BURGOIN	

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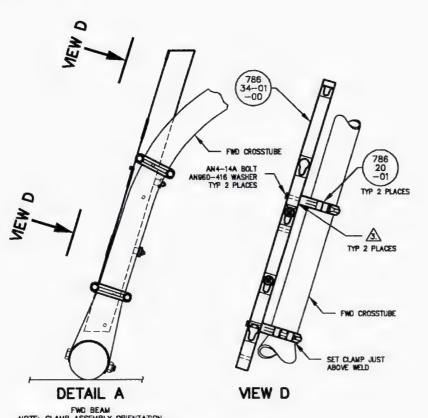
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EUROCOPTER AS350 & AS355 SERIES ATTACHMENT PROVISIONS INSTALLATION

SCALE 1 : 8	DWG. SIZE	DWG. NO.	REV.
SHEET 1 OF 5	A4	78602	0



AFT CROSSTUBE STEP (REF) 786 20 -01 TYP 2 PLACES AN4-14A BOLT AN960-416 WASHER TYP 2 PLACES SET CLAMP JUST ABOVE WELD VIEW E DETAIL B AFT BEAM
NOTE: CLAMP ASSEMBLY ORIENTATION
TOP CLAMP ASSEMBLY - LUG INBOARD
BOTTOM CLAMP ASSEMBLY - LUG INBOARD

FWD BEAM
NOTE: CLAMP ASSEMBLY ORIENTATION
TOP CLAMP ASSEMBLY - LUG OUTBOARD
BOTTOM CLAMP ASSEMBLY - LUG INBOARD

BEAM INSTALLATION — LOW RH

BEAM INSTALLATION - LOW LH

X.X

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APPROVALS	DATE
DRAWN: JEFF CLARKE	23 APR 2010
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DECIMALS ANGLES X.XXX ± 0.010 $\pm 1/2$ X.XX ± 0.03

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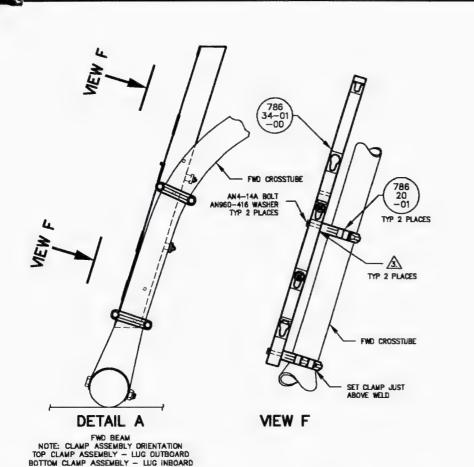
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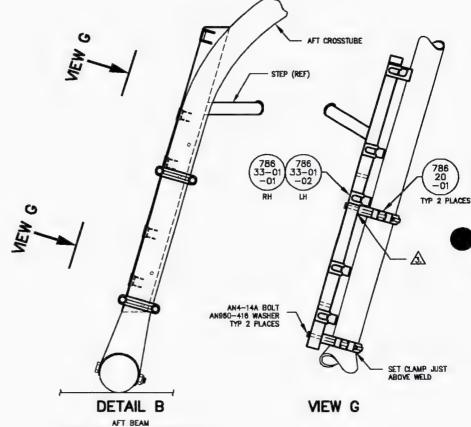
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EUROCOPTER AS350 & AS355 SERIES ATTACHMENT PROVISIONS INSTALLATION

SCALE 1 : 8 DWG. SIZE DWG. NO. REV. SHEET 2 OF 5 A4 78602 0





AFT BEAM NOTE: CLAMP ASSEMBLY ORIENTATION TOP CLAMP ASSEMBLY -- LUG INBOARD BOTTOM CLAMP ASSEMBLY - LUG INBOARD

BEAM INSTALLATION - HIGH RH BEAM INSTALLATION - HIGH LH

APPROVALS	DAIL			
DRAWN: JEFF CLARKE	23 APR 2010			
CHECKED: E. BURGOIN				

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ON:

> **ANGLES** ±1/2°

DECIMALS

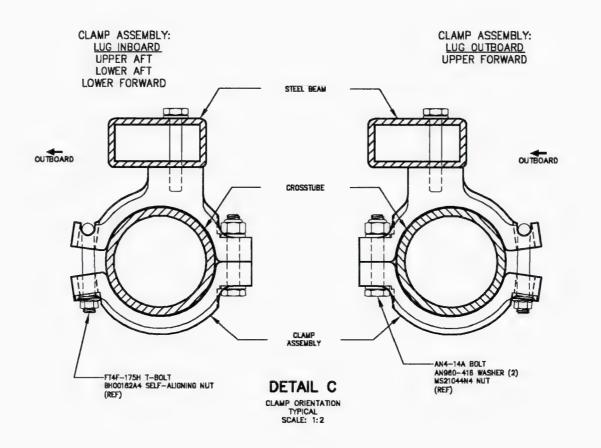
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EUROCOPTER AS350 & AS355 SERIES ATTACHMENT PROVISIONS INSTALLATION

DWG. SIZE DWG, NO. REV. SCALE 1:8 78602 0 SHEET 3 OF 5



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CONTAIL CONTAIL RY TO A RY TO A RIGON THE PUPUCATE PUPUCA	CHECKED: E. BURGOIN				.E., CALGARY, ALBERTA, x: (403) 250-8333	•	
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REV.	DESCRIPTION OF CHANGE	INITIALS	DATE
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NOTES:



ATTACHMENT OF ANY EQUIPMENT TO EXTERNAL ATTACHMENT PROVISIONS REQUIRES TRANSPORT CANADA APPROVAL.

2. TORQUE AN4 BOLTS TO 50-70 INCH-POUNDS.

3. SHIM USING COMMERCIAL 1/4" STAINLESS STEEL FENDER WASHERS IF REQUIRED. REFER TO ICA764.90 FOR INSTRUCTIONS.

- 4. REFER TO ICA764.90 FOR WEIGHT AND BALANCE INFORMATION.
- 5. CONFIGURATION 78602-01-XX IS REQUIRED IF HELICOPTER IS FITTED WITH DART SIDE BAGGAGE COMPARTMENT EXTENDER (SQUIRREL CHEEKS). EITHER CONFIGURATION MAY BE INSTALLED IF HELICOPTER IS NOT FITTED WITH SIDE BAGGAGE COMPARTMENT EXTENDER. REFER TO DRAWING 78603 IF HELICOPTER IS FITTED WITH EUROCOPTER SIDE BAGGAGE COMPARTMENT EXTENDER.

	A/R	A/R	A/R	A/R			1/4" STAINLESS STEEL FENDER WASHER
	4	4	4	4	AN4-14A		BOLT
[1		1		78633-01-02	06	AFT BEAM ASSEMBLY (LEFT HAND)
[1		1	78633-01-01	05	AFT BEAM ASSEMBLY (RIGHT HAND)
	1	1	1	1	78634-01-00	04	FORWARD BEAM ASSEMBLY
[4	4	4	4	78620-01	03	CLAMP ASSEMBLY
					78602-02-02	02	BEAM INSTALLATION - HIGH LH
[78602-02-01	02	BEAM INSTALLATION - HIGH RH
[78602-01-02	01	BEAM INSTALLATION - LOW LH
[78602-01-01	01	BEAM INSTALLATION - LOW RH
	-02-02	-02-01	-01-02	-01-01	PART NO.	ITEM	DESCRIPTION
	QTY	QTY	QTY	QTY		LIS	T OF MATERIALS
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x.xx ±0.03 x.x ±0.1

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EUROCOPTER AS350 & AS355 SERIES
ATTACHMENT PROVISIONS
INSTALLATION

REV.

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SCALE 1 : 8 DWG. SIZE DWG. NO. 78602

STATEMENT OF		CE OF AIRC	ISPORT RAFT OR AIRCRAFT ESS REQUIREMENTS	AE-100 No.: Initial Issue Date: Revision: Revision Date:	AE764-1 20 March, 2008 3 17 September 2010	
Aircraft Mfr: Eurocopter Aircraft Model: AS350 & AS355 Series Registration: ALL ELIGIBLE			Model / Type Approval No.: Airplane Delegation No.: Helicopter Delegate Name: Appliance Component Company:		SH08-16 290M E. Burgoin AERO Design Ltd.	
	1	LI	ST OF APPROVED REPOR	RTS AND DATA		
Document Number	Revision		Docum	ent Title	Compliance Status	
DCL764-1 76401	3 3		t Control List and all docum lease Cargo Basket Installa		As per Compliance Program, CP764, Revision 0	
			DATA APPROVED BY	TRANSPORT CANADA		
ICA764.90 FMS764.91	3 2		ns for Continued Airworthine nual Supplement	ess		
			CERTIFICATIO	DN .		
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THEREFORE		ECOMMEN	D FOR APPROVAL OF TH	ESE DATA		
	[⊠] A	PPROVE TI	HESE DATA	E. Burgoin, DAR 290M		

	DEPARTMEN	T OF TRAN	SPORT	AE-100 No.: Initial Issue Date:	AE764-3 20 March, 2008	
			RAFT OR AIRCRAFT ESS REQUIREMENTS	Revision:	3	
				Revision Date:	17 September 2010	
Aircraft Mfr: Aircraft Model:	Eurocopter AS350 & AS3	355 Series	Model / Type	Approval No.:	SH08-16	
	ALL ELIGIBL		Airplane	Delegation No.:	290M	
			Helicopter 🖂 Appliance	Delegate Name: Company:	E. Burgoin AERO Design Ltd.	
			Component			
		LI	ST OF APPROVED REPO	DRTS AND DATA		
Document Number	Revision		Docu	ment Title	Compliance Status	
			ng Report	ol List and all documents referred to therein nort		
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	[⊠] A	PPROVE TH	HESE DATA	E. Burgoin, DAR 290M		

		CE OF AIRC	ISPORT RAFT OR AIRCRAFT ESS REQUIREMENTS	AE-100 No.: Initial Issue Date: Revision: Revision Date:	AE776-1 20 March, 2008 3 17 September 2010	
Aircraft Mfr: Eurocopter Aircraft Model: AS350 & AS355 Series Registration: ALL ELIGIBLE			Model / Type Approval No.: Airplane Helicopter Appliance Component Approval No.: Delegation No.: Delegate Name: Company:		SH08-16 290M E. Burgoin AERO Design Ltd.	
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Document Number	Revision		Docur	ment Title	Compliance Status	
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			DATA APPROVED BY	TRANSPORT CANADA		
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			CERTIFICATI	ON	1	
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	DEPARTMEN			AE-100 No.: Initial Issue Date:	AE776-3 20 March, 2008
			RAFT OR AIRCRAFT ESS REQUIREMENTS	Revision Date:	2 17 September 2010
Aircraft Mfr:	Eurocopter		Model / Type	Approval No.:	SH08-16
Aircraft Model: Registration:	AS350 & AS3		Airplane	Delegation No.:	290M
Negistration.	ALL ELIGIBLE		Helicopter Appliance Component	Delegation Not. Delegate Name: Company:	E. Burgoin AERO Design Ltd.
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Document Number	Revision			ent Title	Compliance Status
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					CP764, Revision 0
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			CERTIFICATIO	N	
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			1	E. Burgoin, DAR 290M	

STATEMENT OF COMPONENTS \ Aircraft Mfr: Aircraft Model:		CE OF AIRC RWORTHIN	MSPORT RAFT OR AIRCRAFT RESS REQUIREMENTS Model / Type Airplane	AE-100 No.: Initial Issue Date: Revision: Revision Date: Approval No.: Delegation No.: Delegate Name: Company:	AE784-1 20 March, 2008 3 17 September 2010 SH08-16 290M E. Burgoin AERO Design Ltd.	
		LI	ST OF APPROVED REPORTS	S AND DATA		
Document Number	Revision		Document	Title	Compliance Status	
DCL784-1 78401	3 3		Document Control List and all documents referred to therein Quick Release Cargo Basket Installation			
			DATA APPROVED BY TRA	ANSPORT CANADA		
ICA764.90 FMS764.91	3 2		ns for Continued Airworthiness nual Supplement			
			CERTIFICATION	-		
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DEPARTMENT OF TRANSPORT STATEMENT OF COMPLIANCE OF AIRCRAFT OR AIRCRAFT COMPONENTS WITH THE AIRWORTHINESS REQUIREMENTS AE-100 No.: Initial Issue Date: Revision: 3 Revision Date: 17 S							
Aircraft Mfr: Eurocopter Aircraft Model: AS350 & AS355 Series Registration: ALL ELIGIBLE		Model / Type Airplane Helicopter Appliance Component	Approval No.: Delegation No.: Delegate Name: Company:	SH08-16 290M E. Burgoin AERO Design Ltd.			
		LI	ST OF APPROVED REPORT	S AND DATA	L		
Document Number	Revision		Documen	t Title	Compliance Status		
DCL784-3 3 ER764.05 0 76423 2		1	nt Control List and all documenting Report sembly	ents referred to therein As program Program CP76 Revision			
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THEREFORE	[D] R	RECOMMEN	D FOR APPROVAL OF THES	E DATA			
	[⊠] A	PPROVE TI	HESE DATA	. Burgoin, DAR 290M			

STATEMENT OF COMPONENTS \	DEPARTMENT COMPLIANC WITH THE AII	CE OF AIRC	AE-100 No.: Initial Issue Date: Revision: Revision Date:	AE786-1 20 March, 2008 3 17 September 2010	
Aircraft Mfr: Eurocopter Aircraft Model: AS350 & AS355 Series Registration: ALL ELIGIBLE			Model / Type Airplane Helicopter Appliance Component	Approval No.: Delegation No.: Delegate Name: Company:	SH08-16 290M E. Burgoin AERO Design Ltd.
		LI	ST OF APPROVED REPORT	S AND DATA	
Document Number	Revision		Documen	t Title	Compliance Status
DCL786-1 78602 78603	3 0 0	Document Control List and all documents referred to therein Attachment Provisions Installation Attachment Provisions Installation (Eurocopter Pod Compatible)			As per Compliance Program, CP764, Revision 0
			DATA APPROVED BY TR	RANSPORT CANADA	
ICA764.90	3	Instruction	ns for Continued Airworthiness	S	
			CERTIFICATION		
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	[⊠] A	PPROVE TI	HESE DATA	E. Burgoin, DAR 290M	

STATEMENT OF		E OF AIRC	AE-100 No.: Initial Issue Date: Revision: Revision Date:	AE786-3 20 March, 2008 3 17 September 2010	
Aircraft Mfr: Eurocopter Aircraft Model: AS350 & AS355 Series Registration: ALL ELIGIBLE			Model / Type Approval No.: Airplane Delegation No.: Helicopter Delegate Name: Appliance Component Delegate Name:		SH08-16 290M E. Burgoin AERO Design Ltd.
		LI	ST OF APPROVED REPORT	S AND DATA	
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			CERTIFICATION		
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DOCUMENT NO.	DOCU	MENT CONTENT	REVISION
INSTALLATION DOCUMENTS			
76401	Quick Release Car	go Basket Installation	3
ICA764.90	Instructions for Cor	itinued Airworthiness	3
FMS764.91	Flight Manual Supp	lement	2
FABRICATION DOCUMENTS			
DCL764-3	Document Control	List - Basket Assembly	3
ENGINEERING DOCUMENTS			
APPROVAL:	ORIGINAL DATE: 06 March 2008 REVISION DATE: 16 June 2010	AERO DESION 2013 – 39 th Ave NE, Calgary Ph. (403) 250-Fax. (403) 250-	r, Alberta, T2E 6R7 8027
	SHEET 1 OF 1	Eurocopter AS350 & Medium Quick Cargo Basket In	Release
	DC	L764-1	Rev.

DOCUMENT NO.	DOCU	MENT CONTENT	REVISION
FABRICATION DOCUMENTS 76410 76411 69812 76421 76422 76423 76427 69823 69824 49212 49213 49215 49215 49216 84255 84261 84262 84265 84267 84272 36273 36274 36275 36277 36278 36280	Basket Assembly Basket Body Assembly Lid Assembly Hoop Hoop Assembly Hoop Assembly Placard Lug Rim Rim Lid Brace Spacer Spacer Handle Assembly Handle Bar Assembly Handle Bracket Assembly Handle Bracket Bushing Lid Bracket Bushing Bushing Handle Bar Spring Brace Assembly		2 2 2 0 0 2 1 1 0 0 0 0 0 0 0 0 0 0 0 0
ENGINEERING DOCUMENTS ER764.01 TP764.02 FTP764.03 ER764.04 ER764.05	Engineering Report Test Plan/Report Flight Test Plan/Re Engineering Report Engineering Report	port	0 0 0 0
APPROVAL:	ORIGINAL DATE: 06 March 2008 REVISION DATE: 16 June 2010	AERO DESIG 2013 – 39 th Ave NE, Calgary, Ph. (403) 250-80 Fax. (403) 250-8	Alberta, T2E 6R7 027
	SHEET 1 OF 1	Eurocopter AS350 & A Quick Release Car Basket Asse	go Basket
	DC	L764-3	Rev.

DOCUMENT NO.	DOCU	MENT CONTENT	REVISION
INSTALLATION DOCUMENTS			
77601	Quick Release Car	go Basket Installation	3
ICA764.90	Instructions for Con	tinued Airworthiness	3
FMS764.91	Flight Manual Supp	lement	2
FABRICATION DOCUMENTS			
DCL776-3	Document Control I	List - Basket Assembly	2
ENGINEERING DOCUMENTS			
APPROVAL:	ORIGINAL DATE 06 March 2008 REVISION DATE: 16 June 2010	AERO DESIG 2013 – 39 th Ave NE, Calgary, A Ph. (403) 250-802 Fax. (403) 250-83	lberta, T2E 6R7 27
	SHEET 1 OF 1	Eurocopter AS350 & A Quick Release Carg Installation	go Basket
	DC	L776-1	Rev.

DOCUMENT NO.	DOCU	MENT CONTENT	REVISION
FABRICATION DOCUMENTS 77610 77611 77612 76421 76422 77627 69823 49215 49216 84255 84261 84262 84265 84267 84272 36273 36274 36275 36277 36278 36280	Basket Assembly Basket Body Assembly Lid Assembly Hoop Hoop Assembly Placard Lug Spacer Spacer Handle Assembly Handle Bar Assembly Handle Bracket Assembly Handle Bracket Bushing Lid Bracket Bushing Bushing Handle Bar Spring Brace Assembly		1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
ENGINEERING DOCUMENTS ER764.01 TP764.02 FTP764.03 ER764.04 ER764.05	Engineering Report Test Plan/Report Flight Test Plan/Re Engineering Report Engineering Report	port	0 0 0 0
APPROVAL:	ORIGINAL DATE: 06 March 2008 REVISION DATE: 16 June 2010	AERO DESIG 2013 – 39 th Ave NE, Calgary, A Ph. (403) 250-80 Fax. (403) 250-83	lberta, T2E 6R7 27
	SHEET 1 OF 1	Eurocopter AS350 & A Quick Release Car Basket Asser	go Basket
	DC	L776-3	2

DOCUMENT NO.	DOCU	MENT CONTENT	REVISION
INSTALLATION DOCUMENTS			
78401	Quick Release Car	go Basket Installation	3
ICA764.90	Instructions for Cor	ntinued Airworthiness	3
FMS764.91	Flight Manual Supp	lement	2
FABRICATION DOCUMENTS			
DCL784-3	Document Control	List - Basket Assembly	3
ENGINEERING DOCUMENTS			
APPROVAL:	ORIGINAL DATE: 06 March 2008 REVISION DATE: 16 June 2010	AERO DESIG 2013 – 39 th Ave NE, Calgary, Ph. (403) 250-80 Fax. (403) 250-8	Alberta, T2E 6R7 027
	SHEET 1 OF 1	Eurocopter AS350 & A Quick Release Car Installatio	go Basket
	DC	L784-1	Rev.

DOCUMENT NO.	DOCU	MENT CONTENT	REVISION
FABRICATION DOCUMENTS 78410 78411 78412 76421 76422 76423 78427 69823 49215 49216 84255 84261 84262 84265 84267 84272 36273 36274 36275 36277 36278 36280	Basket Assembly Basket Body Assembly Lid Assembly Hoop Hoop Assembly Placard Lug Spacer Spacer Handle Assembly Handle Bar Assembly Handle Bracket Assembly Handle Ever Handle Bracket Bushing Lid Bracket Bushing Bushing Handle Bar Spring Brace Assembly		1 2 1 0 0 2 1 1 0 0 0 0 0 0 0 0 0 1 2 3 0 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
ENGINEERING DOCUMENTS ER764.01 TP764.02 FTP764.03 ER764.04 ER764.05	Engineering Report Test Plan/Report Flight Test Plan/Re Engineering Report Engineering Report	port	0 0 0 0
APPROVAL:	ORIGINAL DATE: 06 March 2008 REVISION DATE: 16 June 2010	AERO DESIGN 2013 – 39 th Ave NE, Calgary, Al Ph. (403) 250-802 Fax. (403) 250-833	berta, T2E 6R7 7
	SHEET 1 OF 1	Eurocopter AS350 & A Quick Release Carg Basket Assem	o Basket
	DC	L784-3	3

DOCUMENT NO.	DOCU	MENT CONTENT	REVISION
INSTALLATION DOCUMENTS			
78602	Attachment Provision	ons Installation	0
78603	Attachment Provision		0
ICA764.90	Instructions for Continued Airworthiness		3
FABRICATION DOCUMENTS			
DCL786-3	Document Control List - Provision Assembly		3
ENGINEERING DOCUMENTS			
APPROVAL:	ORIGINAL DATE: 06 March 2008 REVISION DATE: 16 June 2010	AERO DESIG 2013 – 39 th Ave NE, Calgary, A Ph. (403) 250-80 Fax. (403) 250-83	lberta, T2E 6R7 27
	SHEET 1 OF 1	Eurocopter AS350 & A Basket Provis Installation	sion
	DC	L786-1	Rev.



Aft Beam Fabricatio	n	3 0 0
	Clamp Assembly Eurocopter Pod Compatible Clamp Assembly Aft Beam Fabrication Forward Beam Fabrication	
	port port	0 0 0 0
ORIGINAL DATE: 06 March 2008 REVISION DATE: 16 June 2010	2013 – 39 th Ave N E, Calgary, Ph. (403) 250-80	Alberta, T2E 6R7 027
SHEET 1 OF 1	Basket Installation	Provision
	Load Test Plan/Rep Flight Test Plan/Rep Engineering Report Engineering Report ORIGINAL DATE: 06 March 2008 REVISION DATE: 16 June 2010	CORIGINAL DATE: 06 March 2008 REVISION DATE: 16 June 2010 ORIGINAL Test Plan/Report AERO DESIG 2013 – 39 th Ave NE, Calgary, Ph. (403) 250-80. Fax. (403) 250-80.

DOCUMENT NO.	DOCUI	MENT CONTENT	REVISION
FABRICATION DOCUMENTS			
70401	Open Forward End N (Bell 206L/407 Fixed Quick Release Only)	and McDonnell Douglas MD600N	1
70402	Lid Door Modification)	1
70403	Auxiliary Latch Modif	ication	3
70404	Open Forward End M (Bell 206L/407 Quick		1
70405	Lid Step Modification		2
70406	Open Forward End N (Eurocopter AS350/A Release Only)	Modification AS355 and Bell 206B Quick	1
70407	Open Forward End N (Eurocopter EC135 C		0
70408 70428 70438	Installation, Hanger V Assembly, Hanger W Parts, Hanger Wheel	/heel	0 0
ENGINEERING DOCUMENTS ER704 02	Engineering Report		0
PPROVAL: Transport	ORIGINAL DATE. 10 May 2006 REVISION DATE: April 29, 2010	AERO DESIG 2013 – 39 th Ave NE, Calgary, A Ph. (403) 250-80 Fax. (403) 250-80	Alberta, T2E 6R7 027
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MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

APPENDIX A-3 NORMAL CATEGORY ROTORCRAFT – CAR 527

BLOCK 1

Name of the applicant for the design change approval:

Aero Design Ltd.

Description of the design change:

Installation of Quick Release Cargo Basket on Eurocopter AS350 & AS355 Series

Certification Basis of design change and revision date:

FAR 27, Amendment 27-20

CAR Standard A527.1(c) Program showing how changes to supplemental ICA made by the applicant or by the manufacturers of products and appliances installed in the aeroplane pursuant to the design change will be distributed:

Section 0-3 of Supplemental ICA (ICA 764.90)

CAR Standard 513.05 (1) (g) (iv): Installation Instructions:

Installation Drawing 76401, 77601, 78401, 78602, 78603

BLOCK 2

Note: Enter "N/A" when no supplemental ICA are needed:

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
A527.2 (a) Manual(s) (a) The Instructions for Continued Airworthiness must be in the form of a manual or manuals as appropriate for the quantity of data to be provided.	ICA ref: Eurocopter AS350/AS355 Maintenance Manuals	Supplemental ICA ref: Single Manual (ICA764.90)
A527.2 (b) Practical arrangement (b) The format of the manual or manuals must provide for a practical arrangement.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual	Supplemental ICA ref: Arranged in ATA format
A527.3 The Instructions for Continued Airworthiness must contain the following manuals or sections, as appropriate, and information:		
A527.3 (a) Rotorcraft maintenance manual or section		
A527.3 (a) (1) (Introduction) (1) Introduction information that includes an explanation of the rotorcraft's features and data to the extent necessary for maintenance or preventive maintenance.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: Section 0-1
A527.3 (a) (2) (Description) (2) A description of the rotorcraft and its systems and installations including its engines, rotors, and appliances.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: Section 0-5

MSI 53 - Review of Supplemental Instructions for Continued Airworthiness

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
A527.3 (a) (3) Control & Operation (3) Basic control and operation information describing how the rotorcraft components and systems are controlled and how they operate, including any special procedures and limitations that apply.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: N/A
A527.3 (a) (4) Servicing (4) Servicing information that covers details regarding servicing points, capacities of tanks, reservoirs, types of fluids to be used, pressures applicable to the various systems, location of access panels for inspection and servicing, locations of lubrication points, lubricants to be used, equipment required for servicing, tow instructions and limitations, mooring, jacking, and levelling information.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 12	Supplemental ICA ref: N/A
A527.3 The Instructions for Continued Airworthiness must contain the following manuals or sections, as appropriate, and information: A527.3 (b) Maintenance Instructions.		
A527.3 (b) (1) Scheduling 1) Scheduling information for each part of the rotorcraft and its engines, auxiliary power units, rotors, accessories, instruments, and equipment that provides the recommended periods at which they should be cleaned, inspected, adjusted, tested, and lubricated, and the degree of inspection, the applicable wear tolerances, and work recommended at these periods. However, the applicant may refer to an accessory, instrument, or equipment manufacturer as the source of this information if the applicant shows that the item has an exceptionally high degree of complexity requiring specialized maintenance techniques, test equipment, or expertise. The recommended overhaul periods and necessary cross-references to the	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 5	Supplemental ICA ref: Section 5-1
Airworthiness Limitations section of the manual must also be included. In addition, the applicant must include an inspection program that includes the frequency and extent of the inspections necessary to provide for the continued airworthiness of the rotorcraft. A527.3 (b) (2) Troubleshooting (2) Troubleshooting information describing probable	ICA ref: N/A	Sunglemental ICA as f. NI/A
malfunctions, how to recognize those malfunctions, and the remedial action for those malfunctions.	ICA rei: N/A	Supplemental ICA ref: N/A

MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
A527.3 (b) (3) Removal/replacement (3) Information describing the order and method of removing and replacing products and parts with any necessary precautions to be taken.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 25	Supplemental ICA ref: Section 25-1 thru 25-4
A527.3 (b) (4) General (4) Other general procedural instructions including procedures for system testing during ground running, symmetry checks, weighing and determining the center of gravity, lifting and shoring, and storage limitations.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 7 and 8	Supplemental ICA ref: Section 25-6
A527.3 (c) Access (c) Diagrams of structural access plates and information needed to gain access for inspections when access plates are not provided.	ICA ref: N/A	Supplemental ICA ref: N/A
A527.3 (d) Special inspections (d) Details for the application of special inspection techniques including radiographic and ultrasonic testing where such processes are specified.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 5	Supplemental ICA ref: Section 5-1
A527.3 (e) Protective treatment (e) Information needed to apply protective treatments to the structure after inspection.	ICA ref: Eurocopter Standard Practices Manual, Chapter 20	Supplemental ICA ref: Section 5-3
A527.3 (f) Fasteners, torque values, etc (f) All data relative to structural fasteners such as identification, discard recommendations, and torque values.	ICA ref: Eurocopter Standard Practices Manual, Chapter 20	Supplemental ICA ref: Section 25-7
A527.3 (g) Special tools (g) A list of special tools needed.	ICA ref: Eurocopter Tools Catalog	Supplemental ICA ref: N/A

MSI 53 - Review of Supplemental Instructions for Continued Airworthiness

BLOCK 3

Note: The statement in block 5 does not constitute an approval of the Airworthiness Limitations Section. Airworthiness Limitations differ from other maintenance tasks, in that they are mandatory, as a direct condition of the approval of the type design. They are therefore referenced directly in the approval document itself. However, they must also be included in the Supplemental Instructions for Continued Airworthiness.

must be included in the principal manual. This section must contain a legible statement in a prominent location that reads: "The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister."	location that reads: "The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 4	Supplemental ICA ref: Chapter 4	
BLOCK 4 – Applicant Statement of Compliance				

The Supplemental ICA referenced above comprises the comp that supports this change in type design. Applicants Signature:	lete listing of supplemental IC		he regulatory standard June 23, 2010
Applicants Name: E. Burgoin, P.Eng, DAR 290M			
BLOCK 5 – Minister's Statement of Acceptability			
The design change is adequately supported by existing ICA and/or supplemental ICA, as identified above and is acceptable to the Minister.			
Reviewer's Name:Phone #	Email:	Mail Routing Symbol:	
Signature: Date:			NAPA Number

INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA 764.90

EUROCOPTER AS350 & AS355 SERIES

QUICK RELEASE CARGO BASKET

MODELS: 764, 776 AND 784



TCCA Supplemental Type Certificate No. SH08-16 FAA Supplemental Type Certificate No. SR02680NY

<u>Preface</u>

These Instructions for Continued Airworthiness shall be included in the rotorcraft Maintenance Manual when the Quick Release Cargo Basket installed in accordance with AERO Design Ltd. Document Control Lists:

- DCL764-1 (for Installation 76401), Revision 3,
- DCL776-1 (for Installation 77601), Revision 3,
- DCL784-1 (for Installation 78401), Revision 3,
- DCL786-1 (for mounting provision), Revision 3, or later approved revision, is installed.

The information contained herein supplements the information in the basic Maintenance Manual. For Maintenance practices and procedures not contained in these Instructions for Continued Airworthiness refer to the basic Maintenance Manual and its approved supplements.

Revision 3 Date: 12 April, 2010

<u>AERO Design Ltd.</u> Engineering Consultants 2013 – 39th Avenue N.E., Calgary, Alberta T2E 6R7

Phone: (403) 250-8027 Fax: (403) 250-8333

E-Mail: info@aerodesign.ca

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RECORD OF REVISIONS

Revision Number	Issue Date	Date Inserted	Ву
0	25 February 2008		Original Issue
1	24 June, 2009		
2	22 December 2009		
3	12 April 2010		
-			

LIST OF EFFECTIVE PAGES

Revision 0 (Original Issue)	25 February, 2008
Revision 1	24 June, 2009
Revision 2	22 December, 2009
Revision 3	12 April, 2010
	Revision 1 Revision 2

List of Effective Pages

Description	<u>Pages</u>	Revision No.
Cover	1	3
Revision Record/List of Effective Pages	2	3
Table of Contents	3	2
00-00-00	4-5	0
04-00-00	6	1
05-00-00	7-10	3
11-00-00	11	2
25-50-00	12-30	3

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0-3	DISTRIBUTION	4
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CHAPTER 0 - INTRODUCTION

0-1 SCOPE

The following Instructions for Continued Airworthiness (ICA) satisfy the requirements of 14 CFR 27.1529, and provide the information necessary to complete the on-going maintenance and inspections required for rotorcraft embodying the Quick Release Cargo Basket as described herein.

0-2 DEFINITIONS AND ABBREVIATIONS

ICA - Instructions for Continued Airworthiness

LH - Left Hand

RH - Right Hand

0-3 DISTRIBUTION

Copies of this ICA and amendments shall be distributed to all known purchasers of the Quick Release Cargo Basket. Requests for a copy may be made in writing to:

AERO Design Ltd. 2013 39th Avenue N.E. Calgary, Alberta T2E 6R7

Fax: 403-250-8333

Email: info@aerodesign.ca

Any changes will be sent to Transport Canada. All changes will be recorded in the Record of Revisions page at the front of this document.

0-4 COMPATIBILITY

Prior to incorporating this modification, the installer shall establish that the inter-relationship between this change and any other modification(s) incorporated will not adversely affect the airworthiness of the helicopter.

Revision 0 00-00-00 Page 4

0-5 GENERAL DESCRIPTION

The cargo basket installation is a metal mesh basket installed to the side of the helicopter on beams attached to the landing gear cross tubes. The quick release basket allows for the installation and removal of the basket without tools, leaving the mounting beams in place.

The basket itself is made of a steel welded tubing structure, and lined with expanded steel mesh. The basket has a hinged lid with a self-locking handle.

The beams consist of a steel tube bolted to a clamp on the cross-tube. The quick release mechanism is built into the steel tube.

CHAPTER 4 - AIRWORTHINESS LIMITATIONS

Transport Canada

The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister.

FAA

The Airworthiness Limitations section is FAA approved and specifies maintenance required under Sections 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

No additional airworthiness limitations have been imposed due the installation of the Quick Release Cargo Basket.

Revision 1 **04-00-00** Page 6

CHAPTER 5 – INSPECTION REQUIREMENTS

5-1 INSPECTION SCHEDULE

Continued airworthiness is contingent upon compliance with the following inspection items. These items shall be completed in conjunction with the rotorcraft Maintenance Inspection schedule, or other approved program, or upon removal and replacement of any component of Quick Release Cargo Basket.

Daily Inspection

- 1. Inspection Area: Basket
 - a) Inspect the basket attachment to the beams for condition and security. Ensure quick release mechanism is completely extended, flush with the outboard surface of the beam.
 - b) Inspect latching of the lid for correct operation. If basket is bent inward the lid will close but may not latch.

300 Hour or Annual Inspection

- 1. Inspection Area: Basket
 - a) Visually inspect tube-to-tube welds and mesh-to-tube welds for cracks, corrosion or other damage.
 - b) Visually inspect basket mesh for damage.
- Inspection Area: Beams

With the basket removed:

- a) Visually inspect beams and clamps attaching basket to the helicopter for cracks, corrosion or other damage.
- b) Visually inspect lugs attaching the basket to the beams for security and damage.
- c) Visually inspect bolts attaching beams to clamps and clamps to cross tubes for condition and security.
- d) Visually inspect peg step on aft beam for crack corrosion or other damage. Inspect grip surface on top of peg for condition.

Special Inspections

- 1. Following a hard landing inspect the Quick Release Cargo Basket installation in accordance with the 300 hour or annual inspection listed above.
- Any joints using a helical thread insert (Helicoil) shall be inspected on assembly in accordance with the procedure for checking self locking nuts and screws specified in the Eurocopter Standard Practices Manual, Section 20.02.05.601

Revision 3 **05-00-00**

5-2 DAMAGE LIMITS / REPAIR INSTRUCTIONS

If damage is found in the inspections above, repair in accordance with the instructions below.

Basket

a) Repair Basket in accordance with AC43.13-1B, Chapter 4, Section 5, Welding, as required.

b) Basket is fabricated from the following materials:

Attachment Hoops:

1" square steel tube and/or ½" square steel tube

Lid and Rim:

3/4" square steel tube

Frames:

1/2" square steel tube

Mesh:

3/4" 16 ga. (0.040") expanded steel mesh

c) Touch up with polyurethane paint as required following repairs.

2. Steel Beams

DO NOT REPAIR DAMAGE TO BEAMS IF BEYOND THE LIMITS BELOW.

- a) Nicks and/or gouges on any face up to 0.015" deep and 0.125" wide may be dressed out to a smooth contour.
- b) Critical keyway dimensions are shown in Figure 5.1. Attempt to insert 15/32 drill shank into bottom end of keyway. If drill can be inserted, slot is worn beyond limit.

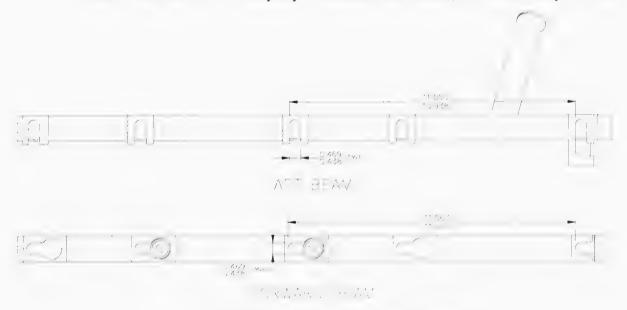


Figure 5.1 - Critical Keyway Dimensions

- c) Touch up with polyurethane paint as required following repairs.
- d) Aft beam only: Grip surface on top of peg step has 1" wide 3M Safetywalk grip tape, or equivalent, on the top surface. Alternatively, it may be painted with Randolph X1567 WingWalk grip paint or equivalent.

Revision 3 **05-00-00** Page 8

3. Aluminum Clamps

DO NOT REPAIR DAMAGE TO CLAMPS IF BEYOND THE LIMITS BELOW.

- a) Nicks and/or gouges on the top or bottom surface up to 0.060" deep and 0.125" wide may be dressed out to a smooth contour. Refer to Figure 5.2.
- b) Nicks and/or gouges on the outer edge up to 0.030" deep and 0.125" wide may be dressed out to a smooth contour. Refer to Figure 5.2.
- c) Any cracking on any surface is unacceptable.
- d) Touch up with polyurethane paint as required following repairs.

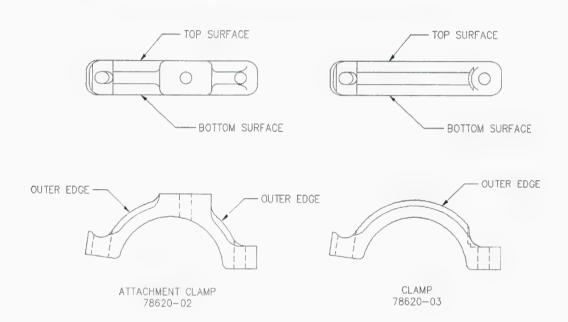


Figure 5.2 – Aluminum Clamps (78620-01 shown, 78621-XX similar)

4. Helical Thread Inserts

Helical thread inserts (Helicoils) found to be damaged shall be repaired in accordance with the Eurocopter Standard Practices Manual, Section 20.03.04.404.

Part numbers:

1/4-28 insert: 3591-4CN375

5-3 PROTECTIVE TREATMENT INFORMATION

1. Beams

The steel tubes are supplied powder coated white. If the powder coat is damaged, touch up with white polyurethane paint.

Aft beam only: the peg step has a 1" wide strip of 3M SafetyWalk grip tape applied to the top surface. If the grip tape is damaged it may be replaced with equivalent grip tape or may be painted with Randolph X1567 WingWalk grip paint.

2. Clamps

The aluminum clamps are supplied painted white. If the paint is damaged, touch up with white polyurethane paint.

3. Cargo Basket

The cargo basket is supplied powder coated white. If the powder coat is damaged, touch up with white polyurethane paint.

Revision 3 05-00-00

Page 10

CHAPTER 11 - MARKINGS AND PLACARDS

The following markings and placards are used with the Quick Release Cargo Basket Installation in the locations noted:

a) Located on basket lid:



CHAPTER 25 - EQUIPMENT AND FURNISHINGS

SECTION 50 - CARGO COMPARTMENTS

The Quick Release Cargo Basket Installation may be applied to the right or left side of the helicopter.

25-1 BEAMS INSTALLATION

Refer to section 25-6 for part numbers.

The HIGH beam mounting position (configuration 78602-02-XX) is standard and uses the LOWER set of holes in the beams. The LOW beam mounting position (configuration 78602-01-XX) is required if the helicopter is fitted with cargo compartment extenders ("squirrel cheeks"), and uses the UPPER set of holes in the beams.

Installation pictures show LEFT SIDE, HIGH mounted installation.

 Position two (2) Clamp Assemblies 78620-01 around each cross tube. Fasten clamps using one AN4-14A Bolt, two (2) AN960-416 Washers and MS21044N4 Nut through one side of the Clamp Assembly and one FT4F-175H T-Bolt and BH00182A4 Self-Aligning Nut through the other side of the Clamp Assembly. Fully torque AN4-14A bolt, do not tighten T-Bolt.

Note orientation (refer to figure 25.1 thru 25.3):

Forward – Top: Lug Outboard
Forward – Bottom: Lug Inboard
Aft – Top: Lug Inboard
Aft – Bottom: Lug Inboard

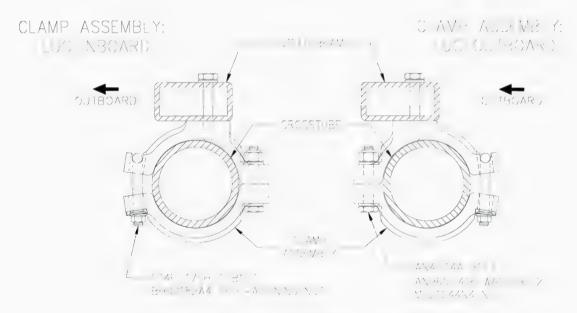


Figure 25.1 – Beam Installation – Clamp Detail



Figure 25.2 - Aft Cross Tube Clamps

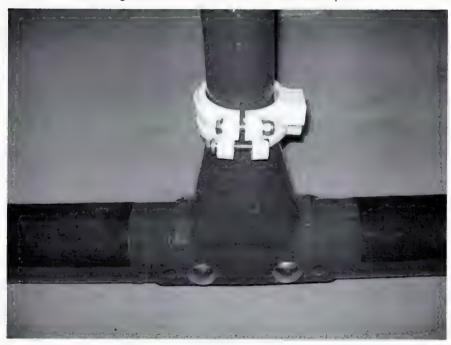


Figure 25.3 - Forward Cross Tube Clamps

2. Attach Forward Beam Assembly to Clamp Assemblies on forward cross tube with two (2) AN4-14A Bolts and two (2) AN960-416 Washers. Locate clamps on LOWER set of holes in beam for HIGH installation, or UPPER set of holes for LOW installation. Do not fully tighten bolts. Position beam so that the bottom clamp is slightly above the weld at the bottom of the cross tube. Tighten clamp bolts enough to prevent slippage on the tube while adjusting installation in following steps.

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Figure 25.4 – Forward Beam Installation (Looking aft)



Figure 25.4 – Forward Beam Installation (Looking down)



Figure 25.5 - Forward Beam Installation, Bottom Clamp

3. Attach Aft Beam Assembly to Clamp Assemblies on aft cross tube with two (2) AN4-14A Bolts and two (2) AN960-416 Washers. Locate clamps on LOWER set of holes in beam for HIGH installation, or UPPER set of holes for LOW installation. Do not fully tighten bolts. Position beam so that the bottom clamp is slightly above the weld at the bottom of the cross tube. Tighten clamp bolts enough to prevent slippage on the tube while adjusting installation in following steps.



Figure 25.6 - Aft Beam Installation (Looking aft)



Figure 25.7 – Aft Beam Installation (Looking down)



Figure 25.8 - Aft Beam Installation, Bottom Clamp

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4. Using a large square or straight edge as a reference, align the forward and aft beams with the cross tubes. Loosen bolts if required to adjust the beam, re-tighten clamp bolts after adjusting.

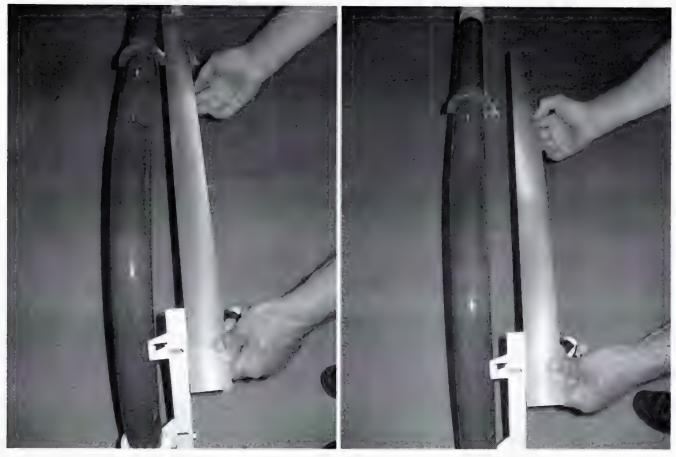


Figure 25.9 - Beam Alignment (Note left picture is not parallel to cross tube, right picture is correct)

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5. In order to easily snap the basket in and out of the beams, the beams must be correctly aligned. The following steps detail the alignment procedures. Ensure beams are approximately parallel and aligned front to back before starting. For all procedures listed below, set the basket on the beams as described, remove the basket to apply the correction and re-check with the basket after.

a. Beams too close together or too far apart (basket cannot be installed in top slots):

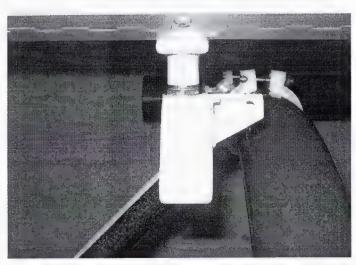
Set upper aft attachment fitting on basket into top keyway in aft beam and slide basket aft. Attempt to insert upper forward fitting into top keyway of forward beam.











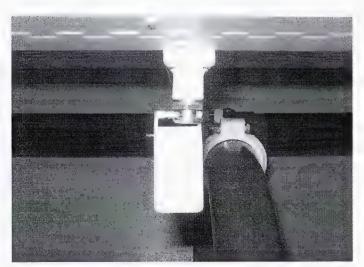


Figure 25.10 – Beam Adjustment, Step 1 – Beams too close together (Looking down, left picture aft beam, right picture forward beam)

The basket attachment fittings should be centred on the beams to allow for some fore/aft movement on the aft beam if required due to landing conditions or changes in weight and balance. Note in Figure 25.10 the aft fitting is bottomed in the aft slot and the forward fitting cannot be inserted. In this case the AFT beam would require shimming.

Using $\frac{1}{2}$ " commercial stainless steel fender washers, shim the forward or aft beam as required by inserting washer(s) between the beam and both clamps. Only use enough shims to allow basket to enter the TOP slot.

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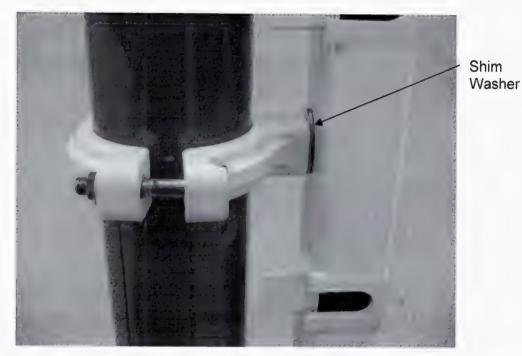


Figure 25.11 - Beam Adjustment, Step 1 - Shim Rear Beam

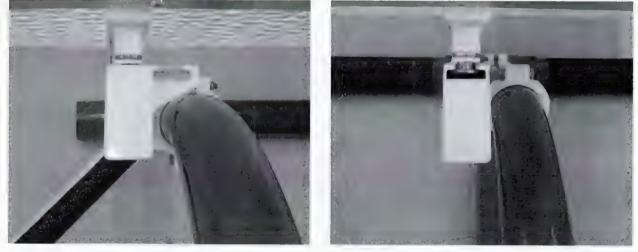


Figure 25.12 – Beam Adjustment, Step 1 – Basket Attachments After Shimming

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b. Basket in top slots, resting with bottom fittings against beams (not in keyways), forward fitting does not line up with keyway (fore/aft):





Figure 25.13 – Basket Adjustment Step 2 – Forward Fitting Out of Alignment (Left picture is looking aft, right picture is looking forward)

The beams are not at the same height. Raise or lower the aft beam along the aft cross tube until the bottom fittings on the basket are aligned with both keyways.





Figure 25.14 – Basket Adjustment Step 2 – Forward Fitting Aligned (Aft beam moved up to align forward fitting with keyway)

c. Basket in top slots, resting with bottom fittings against beams, bottom aft fitting bottoms out in keyway:

The landing gear cross tubes are not parallel. Using ½" commercial stainless steel fender washers, shim the top or bottom (as required) to align the bottom fitting on the basket with the keyway.

d. Basket in top slots, resting with bottom fitting against beams, bottom fitting is away from the surface of the forward beam (outboard):

The beams are not parallel. Adjust the forward beam up or down the forward cross tube until both bottom fittings sit flat on the beams.

e. Basket in all keyways, does not slide smoothly in and out of forward beam:

Opposite attachment fittings on the basket (top front and bottom aft or bottom front and top aft) may be shimmed out using a maximum of two (2) additional AN960-616 washers to allow the basket to slide into the keyways without twisting.

6. Bolts attaching beams to clamps (AN4-14A) that have been shimmed require longer bolts. There must be at least 0.38" of thread protruding with shims in place.

1 washer – AN4-14A bolt (no change)

2-3 washers - AN4-15A bolt

4-5 washers - AN4-16A bolt

Shimming in excess of 5 washers may indicate incorrect alignment in step 5. Confirm corrective actions taken, and if shims are still required, contact AERO Design Ltd. for further instructions.

7. Torque all ¼" fasteners (12 places) to 30-40 inch-pounds. Note: A gap will remain on the side of the clamp assembly with the T-bolt as shown in Figure 25.1.

25-2 EUROCOPTER POD COMPATIBLE BEAMS INSTALLATION

A helicopter that is fitted with Eurocopter Extended Cargo Compartment ("Squirrel Cheeks") requires different Clamp Assemblies as listed in section 25-6, (configuration 78603-01-XX). Installation procedure is the same as listed in Section 25-1, with the beams mounted in the LOW position.

Ensure Clamp Assemblies are correct for the side of the helicopter the basket is to be installed on. The beam mounting lug is on the BOTTOM of the clamp and points AFT. The forward top clamp is different than the other three clamps.

25-3 BEAMS REMOVAL

Refer to Figure 25.1.

- Remove Cargo Basket. Refer to section 25-5.
- 2. Remove fasteners securing clamp assemblies to the forward cross-tube. Remove Beam Assembly with clamps.
- 3. Remove fasteners securing clamp assemblies to the aft cross-tube. Remove Beam Assembly with clamps.

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25-4 BASKET INSTALLATION

Refer to Figure 25.15 and Figure 25.16. Refer to section 25-6 for part numbers.

- 1. Set basket upper aft attachment into upper keyway in aft beam. Forward end of basket may rest on floor.
- 2. Lift basket from forward end, slide lower aft attachment into keyway on aft beam.
- 3. At forward attachment hoop, lift basket until lower attachment fitting hits stop.
- 4. Push fitting into keyway and slide basket down until locked.

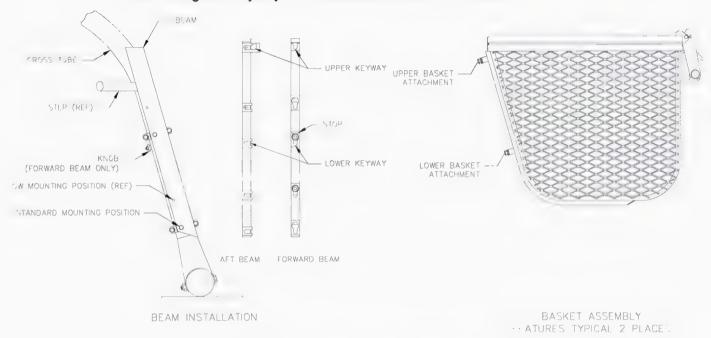


Figure 25.15 – Basket Attachment Features

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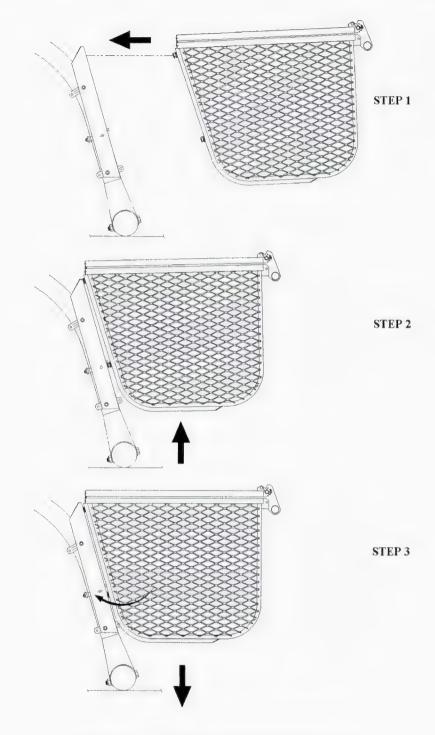


Figure 25.16 - Basket Attachment Steps

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25-5 BASKET REMOVAL

Refer to Figure 25.15 and Figure 25.16.

1. Pull knob at bottom end of forward beam and lift basket until attachment fittings are free of keyways on forward beam.

- Rotate basket up until lower aft attachment fitting is free of keyway. Rest forward end of basket on floor.
- 3. Slide basket forward and raise basket until upper aft attachment fitting is free of keyway.

25-6 BILL OF MATERIALS

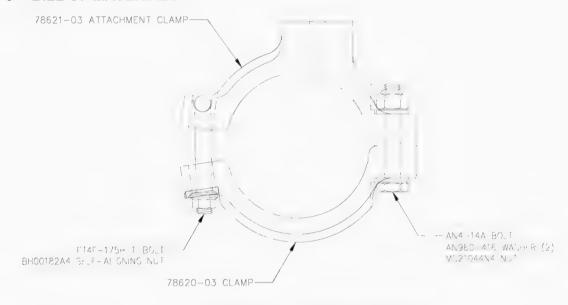


Figure 25.17 - Clamp Assembly

CLAMP ASSEMBLY (Standard)

Qty.	Part Number	Description
	78620-01	Clamp Assembly
. 1	78620-02	Attachment Clamp (with mounting pad)
. 1	78620-03	Clamp (no mounting pad)
. 1	AN4-14A	Bolt
. 2	AN960-416	Washer
. 1	MS21044N4	Nut
. 1	FT4F-175H	T-Bolt
. 1	BH00182A4	Self Aligning Nut

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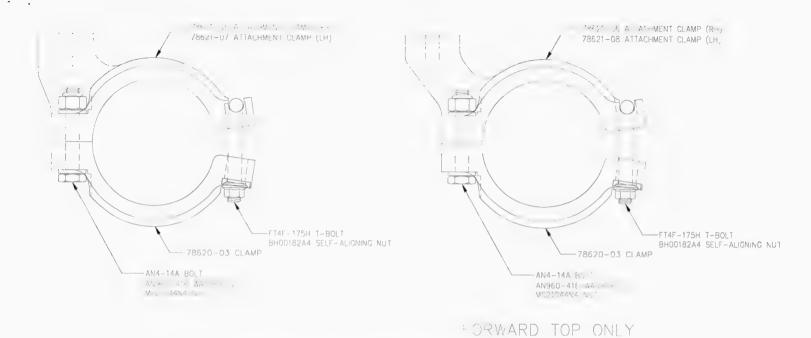


Figure 25.18 – Eurocopter Pod Compatible Clamps (Right Hand shown, Left Hand opposite)

CLAMP ASSEMBLY (Eurocopter Pod Compatible)

Qty.	Part Number	Description
	78621-01	Right Hand Clamp Assembly
. 1	78621-05	Attachment Clamp
	78621-02	Right Hand, Forward Top, Clamp Assembly
. 1	78621-06	Attachment Clamp
	78621-03	Left Hand Clamp Assembly
. 1	78621-07	Attachment Clamp
	78621-04	Left Hand, Forward Top Clamp Assembly
. 1	78621-08	Attachment Clamp
. 1	78621-09	Clamp (no mounting pad)
. 1	AN4-14A	Bolt
. 2	AN960-416	Washer
. 1	MS21044N4	Nut
. 1	FT4F-175H	T-Bolt
. 1	BH00182A4	Self Aligning Nut

PROVISIONS INSTALLATION

LOW CONFIGURATION



Figure 25.19 – Low Mounted Provisions Installation

Qty.	Part Number	Description
1	78602-01-01	Provisions Installation- RH Low
1	78602-01-02	Provisions Installation- LH Low
. 4	78620-01	Clamp Assembly
. 1	78633-01-01	Aft Beam Assembly (RH)
. 1	78633-01-02	Aft Beam Assembly (LH)
. 1	78634-01-00	Forward Beam Assembly
. 4	AN4-14A	Bolt
. 4	AN960-416	Washer
. A/R		Commercial Stainless Steel Fender Washer

HIGH CONFIGURATION



Figure 25.20 – High Mounted Provisions Installation

Qty.	Part Number	Description
1	78602-02-01	Provisions Installation – RH High
1	78602-02-02	Provisions Installation – LH High
. 4	78620-01	Clamp Assembly
. 1	78633-01-01	Aft Beam Assembly (RH)
. 1	78633-01-02	Aft Beam Assembly (LH)
. 1	78634-01-00	Forward Beam Assembly
. 4	AN4-14A	Bolt
. 4	AN960-416	Washer
. A/R		Commercial Stainless Steel Fender Washer

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EUROCOPTER POD COMPATIBLE CONFIGURATION



Figure 25.21 – Eurocopter Pod Compatible Provisions Installation

Qty.	Part Number	Description
1	78603-01-01	Provisions Installation – RH Eurocopter Pod Compatible
1	78603-01-02	Provisions Installation – LH Eurocopter Pod Compatible
. 3	78621-01	Clamp Assembly (RH)
. 3	78621-03	Clamp Assembly (LH)
. 1	78621-02	Clamp Assembly (RH – Forward Top)
. 1	78621-04	Clamp Assembly (LH – Forward Top)
. 1	78633-01-01	Aft Beam Assembly (RH)
. 1	78633-01-02	Aft Beam Assembly (LH)
. 1	78634-01-00	Forward Beam Assembly
. 4	AN4-14A	Bolt
. 4	AN960-416	Washer
. A/R		Commercial Stainless Steel Fender Washer

SHORT BASKET - MODEL 776



Figure 25.22 - Quick Release Cargo Basket Configuration 77601 (Short Basket)

Qty.	Part Number	Description
1	77601-01-XX	Low Short Basket Installation
. 1	78602-01-XX	Low Provisions Installation
. 1	77610-01	Short Basket Assembly
1	77601-02-XX	High Short Basket Installation
. 1	78602-02-XX	High Provisions Installation
. 1	77610-01	Short Basket Assembly
1	77601-03-XX	Eurocopter Pod Compatible Short Basket Installation
. 1	78603-01-XX	Eurocopter Pod Compatible Provisions Installation
. 1	77610-01	Short Basket Assembly

Note: -XX indicates side. Right side -01, left side -02

MEDIUM BASKET - MODEL 764

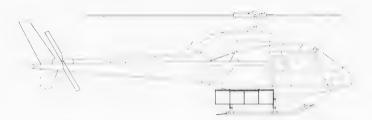


Figure 25.23 – Quick Release Cargo Basket Configuration 76401 (Medium Basket)

Qty.	Part Number	Description
1	76401-01-XX	Low Medium Basket Installation
. 1	78602-01-XX	Low Provisions Installation
. 1	76410-01-XX	Medium Basket Assembly
1	76401-02-XX	High Medium Basket Installation
. 1	78602-02-XX	High Provisions Installation
. 1	76410-01-XX	Medium Basket Assembly
1	76401-03-XX	Eurocopter Pod Compatible Medium Basket Installation
. 1	78603-01-XX	Eurocopter Pod Compatible Provisions Installation
. 1	76410-01-XX	Medium Basket Assembly

Note: -XX indicates side. Right side -01, left side -02

LONG BASKET - MODEL 78401

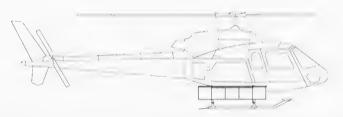


Figure 25.24 – Quick Release Cargo Basket: Configuration 78401 (Long Basket)

Qty.	Part Number	Description			
1	78401-01-XX	Low Long Basket Installation			
. 1	78602-01-XX	Low Provisions Installation			
. 1	78410-01	Long Basket Assembly			
1	78401-02-XX	High Long Basket Installation			
. 1	78602-02-XX	High Provisions Installation			
. 1	78410-01	Long Basket Assembly			
1	78401-03-XX	Eurocopter Pod Compatible Long Basket Installation			
. 1	78603-01-XX	Eurocopter Pod Compatible Provisions Installation			
. 1	78410-01	Long Basket Assembly			

Note: -XX indicates side. Right side -01, left side -02

25-6 WEIGHT AND BALANCE

This section contains weight and balance information for cargo basket models 764, 776 and 784 and attachment provisions 786. Each cargo basket model has multiple configurations. Refer to the weight and balance information applicable to basket model and configuration installed.

Determine which mounting position (Low, High, or Eurocopter Pod Compatible) and length (Short, Medium, or Long) and locate on chart.

Two weight and balance configurations are required: Attachment Provisions only; and Basket Installed. The basket configurations INCLUDE the provisions.

		Standard Units				Metric Units					
		Weight	Longit	udinal	Lat	eral	Weight	Longit	udinal	Late	eral
Configuration			Arm	Moment	Arm	Moment		Arm	Moment	Arm	Moment
		lb	in	in-lb	in	in-lb	kg	mm	mm-kg	mm	mm-kg
Mounting Provisions Installation Right Hand	Part Number										
Low	78602-01-01	6.4	135.6	867.5	37.2	238.0	2.9	3443.0	9970.6	944.6	2735.4
High	78602-02-01	6.4	135.6	867.5	36.5	233.8	2.9	3443.0	9970.6	928.1	2687.6
Eurocopter Pod Compatible	78603-01-01	6.8	135.4	921.0	38.8	263.6	3.1	3440.1	10 584.8	984.6	3029.6
Left Hand											
Low	78602-01-02	6.4	135.6	867.5	-37.2	-238.0	2.9	3443.0	9970.6	-944.6	-2735.4
High	78602-02-02	6.4	135.6	867.5	-36.5	-233.8	2.9	3443.0	9970.6	-928.1	-2687.6
Eurocopter Pod Compatible	78603-01-02	6.8	135.4	921.0	-38.8	-263.6	3.1	3440.1	10584.8	-984.6	-3029.6
Short Basket Installation Right Hand											
Low	77601-01-01	41.4	135.9	5627.5	45.9	1900.5	18.7	2452.0	64670.0	4400.0	04040.0
High	77601-01-01	41.4	135.9	5627.5	45.1	1868.3	18.7	3452.6 3452.6	64678.3	1166.0	21842.9
Eurocopter Pod Compatible	77601-02-01	41.8	135.9	5681.0	47.8	1996.1	18.9	3452.6	64678.3 65292.5	1146.3 1212.9	21473.2 22941.6
Left Hand											
Low	77601-01-02	41.4	135.9	5627.5	-45.9	-1900.5	18.7	3452.6	64678.3	-1166.0	-21842.9
High	77601-02-02	41.4	135.9	5627.5	-45.1	-1868.3	18.7	3452.6	64678.3	-1146.3	-21473.2
Eurocopter Pod Compatible	77601-03-02	41.8	135.9	5681.0	-47.8	1996.1	18.9	3452.1	65292.5	-1212.9	-22941.6
Medium Basket Installation									<u></u>		
Right Hand											
Low	76401-01-01	51.4	144.0	7401.5	46.7	2402.5	23.3	3657.6	85067.2	1187.2	27612.4
High	76401-02-01	51.4	144.0	7401.5	46.0	2362.3	23.3	3657.6	85067.2	1167.4	27150.9
Eurocopter Pod Compatible	76401-03-01	51.8	143.9	7455.0	48.6	2518.1	23.4	3655.5	85681.4	1234.7	28941.1
Left Hand											
Low	76401-01-02	51.4	144.0	7401.5	-46.7	-2402.5	23.3	3657.6	85067.2	-1187.2	-27612.4
High	76401-02-02	51.4	144.0	7401.5	-46.0	-2362.3	23.3	3657.6	85067.2	-1167.4	-27150.9
Eurocopter Pod Compatible	76401-03-02	51.8	143.9	7455.0	-48.6	-2518.1	23.4	3655.5	85681.4	-1234.7	-28941.1
Long Basket Installation				•					2"4,		
Right Hand											
Low	78401-01-01	63.9	136.0	8687.5	47.4	3026.8	28.9	3453.3	99847.5	1203.1	34787.1
High	78401-02-01	63.9	136.0	8687.5	46.6	2976.6	28.9	3453.3	99847.5	1183.2	34210.6
Eurocopter Pod Compatible	78401-03-01	64.3	135.9	8741.0	49.3	3167.4	29.1	3452.9	100461.7	1251.2	36403.0
Left Hand											
Low	78401-01-02	63.9	136.0	8687.5	-47.4	-3026.8	28.9	3453.3	99847.5	-1203.1	-34787.1
High	78401-02-02	63.9	136.0	8687.5	-46.6	-2976.6	28.9	3453.3	99847.5	-1183.2	-34210.6
Eurocopter Pod Compatible	78401-03-02	64.3	135.9	8741.0	-49.3	-3167.4	29.1	3452.9	100461.7	-1251.2	-36403.0

Table 25.1 - Weight and Balance

OPTIONS. The following weight and balance is for optional configurations of the basket.

Standard Units

P/N	Description	Weight	Longitudinal		Lateral		
			arm	moment	arm	moment	
		lb	in	in-lb	in	in-lb	
70406-01	Front End Cutout	-0.3	107.8	-32.3	*	*	
70405-01	Lid Step (Short Basket)	4.0	136.0	544.0	*	*	
70405-01	Lid Step (Medium Basket)	5.8	145.2	842.2	*	*	
70405-01	Lid Step (Long Basket)	7.7	136.0	1047.2	*	*	
70408-01	Hangar Wheel (Short/Medium Basket)	0.8	110.0	88.0	*	*	
70408-01	Hangar Wheel (Long Basket)	0.8	92.0	73.6	*	*	

Metric Units

P/N	Description	Weight	Long	gitudinal	Lateral		
			arm	Moment	arm	moment	
		kg	mm	mm-kg	mm	mm-kg	
70406-01	Front End Cutout	-0.1	2730.5	-273.1	*	*	
70405-01	Lid Step (Short Basket)	1.8	3453.3	6215.9	*	*	
70405-01	Lid Step (Medium Basket)	2.6	3688.1	9589.1	*	*	
70405-01	Lid Step (Long Basket)	3.5	3453.3	12086.6	*	*	
70408-01	Hangar Wheel (Short/Medium Basket)	0.4	2794.0	1117.6	*	*	
70408-01	Hangar Wheel (Long Basket)	0.4	2336.8	934.7	*	*	

Table 25.2 - Options Weight and Balance

25-7 STRUCTURAL FASTENER DATA

Refer to Eurocopter Standard Practices Manual for torque values not listed in this ICA.

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^{*}Note: Lateral arm is the same as the basket configuration. Lateral moment is calculated with the lateral arm.

AS350 & AS355 SERIES HELICOPTERS

ROTORCRAFT FLIGHT MANUAL SUPPLEMENT for the

INSTALLATION of the AERO DESIGN QUICK RELEASE CARGO BASKET AND/OR QUICK RELEASE MAINTENANCE STEP

CARGO BASKET MODELS: 76401, 77601, 78401

TCCA Supplemental Type Certificate No. SH08-16 FAA Supplemental Type Certificate No. SR02680NY

Sections I, II, III and IV of this document comprise the Transport Canada Approved sections of this Flight Manual Supplement. Compliance with Section I, Limitations, is mandatory. Section V and any subsequent sections if present are Unapproved and are provided for information only.

The information and data contained in this Flight Manual Supplement supersede or supplement that contained in the basic Approved Flight Manual for the Eurocopter AS350 and AS355 Series Helicopters when fitted with the Quick Release Cargo Basket Installation and/or Quick Release Maintenance Step Installation. For limitations, procedures and performance not listed in this Flight Manual Supplement refer to the Approved Flight Manual and other approved Flight Manual Supplements.

Table of Contents

	Limitations	3
	Normal Procedures	3
Ш	Emergency Procedures	3
IV	Performance	3
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Record of Revisions

Revision	Issue Date	Pages Revised	Date Inserted	Ву
0	25 Feb, 2008	None		
1	29 Jan, 2010	All		
2	16 June 2010	1, 2, 4-11		

I LIMITATIONS

- The maximum load in the AERO Design Ltd. Quick Release Cargo Basket Models 764 and 784 is 250 lb. (113 kg). The maximum load in the AERO Design Ltd. Quick Release Cargo Basket Model 776 is 300 lb. (135.7 kg).
- Only one basket may be installed on the helicopter, on the right or left side.
- Flight operations limited to VFR conditions with AERO Design Ltd. Quick Release Cargo Basket installed.
- 4. V_{NE} is unchanged from the basic rotorcraft.
- AS355NP only: For Category A operations, the basket must be removed. Mounting provisions may be left in place.

II NORMAL PROCEDURES

- 1. Pre-flight inspections:
 - Ensure that all cargo stored in the cargo basket is properly tied down and secured for flight.
 - Ensure that the lid of cargo basket is closed and secured.
 - Ensure the basket is locked in postion on the beams. Pull up on the forward and aft end of the basket to check.

CAUTION

It is possible to exceed the lateral centre of gravity limits of the rotorcraft under some loading conditions. Pilots must ensure that lateral C of G is within limits when loading the basket.

III EMERGENCY PROCEDURES

No change from basic Approved Flight Manual.

IV PERFORMANCE

- 1. Cruise performance and range will be reduced by approximately 8 percent with the Cargo Basket Installed.
- 2. AEO climb performance will be reduced by up to 150 fpm.

V WEIGHT AND BALANCE

This section contains weight and balance information for cargo basket models 76401, 77601, and 78401. Each model has multiple configurations. Refer to the weight and balance information applicable to model and configuration installed.

Longitudinal and Lateral moment arms for Cargo are given only for the center of the Cargo Basket. Due to the length of the basket, some loading arrangements may require that actual moment arms be measured, to determine the correct moments about the center of gravity.

CAUTION:

It is possible to exceed lateral CG limits in some configurations.

1. Configuration 786 - Mounting Provisions Only

The following weight and balance is for the mounting provisions installed in accordance with drawing 78602 or 78603 as applicable.



Standard

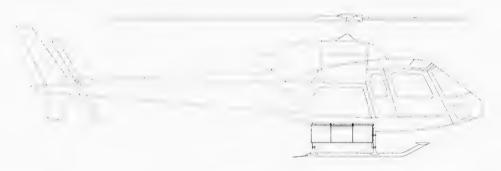
P/N	Description	Weight	Long	Longitudinal		eral
			arm	moment	arm	moment
		lb	in	in-lb	in	in-lb
78602-01-01	Low Right Hand Provisions	6.4	135.6	866.0	37.2	238.0
78602-02-01	High Right Hand Provisions	6.4	135.6	866.0	36.5	233.8
78603-01-01	Right Hand Eurocopter Pod Compatible Provisions	6.8	135.4	921.0	38.8	263.6
78602-01-02	Low Left Hand Provisions	6.4	135.6	866.0	-37.2	-238.0
78602-02-02	High Left Hand Provisions	6.4	135.6	866.0	-36.5	-233.8
78603-01-02	Left Hand Eurocopter Pod Compatible Provisions	6.8	135.4	921.0	-38.8	-263.6

Metric

P/N	Description	Weight	Longitudinal		Lat	eral
			arm	moment	arm	moment
		kg	mm	mm-kg	mm	mm-kg
78602-01-01	Low Right Hand Provisions	2.9	3443.0	9970.6	944.6	2735.4
78602-02-01	High Right Hand Provisions	2.9	3443.0	9970.6	928.1	2687.6
78603-01-01	Right Hand Eurocopter Pod Compatible Provisions	3.1	3440.1	10584.8	984.6	3029.6
78602-01-02	Low Left Hand Provisions	2.9	3443.0	9970.6	-944.6	-2735.4
78602-02-02	High Left Hand Provisions	2.9	3443.0	9970.6	-928.1	-2687.6
78603-01-02	Left Hand Eurocopter Pod Compatible Provisions	3.1	3440.1	10584.8	-984.6	-3029.6

2. Configuration 776 (Short Basket)

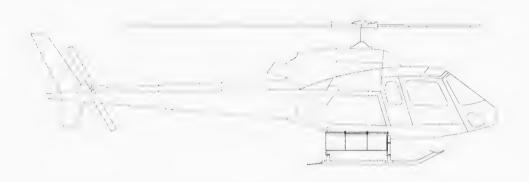
The following weight and balance is for cargo baskets installed in accordance with drawing 77601.



Standard

P/N	Description	Weight	Longitudinal		La	teral
			arm	moment	arm	moment
		lb	in	in-lb	in	in-lb
77601-01-01	Low Right Hand Installation	41.4	135.9	5627.5	45.9	1900.5
77601-02-01	High Right Hand Installation	41.4	135.9	5627.5	45.1	1868.3
77601-03-01	Eurocopter Pod Compatible Right Hand Installation	41.8	135.9	5681.0	47.8	1996.1
	Maximum Cargo (RH)	300.0	135.9	40770.0	*	*
77601-01-02	Low Left Hand Installation	41.4	135.9	5627.5	-45.9	-1900.5
77601-02-02	High Left Hand Installation	41.4	135.9	5627.5	-45.1	-1868.3
77601-03-02	Eurocopter Pod Compatible Left Hand Installation	41.8	135.9	5681.0	-47.8	-1996.1
	Maximum Cargo (LH)	300.0	135.7	40710.0	*	*

^{*}Lateral arm is same as basket configuration. Lateral moment is calculated with lateral arm.



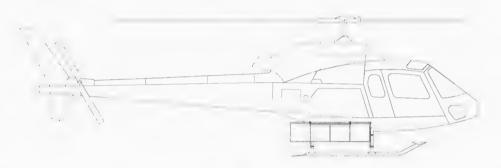
Metric

		Metric				
P/N	Description	Weight	Longitudinal		Late	eral
			arm	moment	arm	momen
		kg	mm	mm-kg	mm	mm-kg
77601-01-01	Low Right Hand Installation	18.7	3452.6	5627.5	1166.0	21842.9
77601-02-01	High Right Hand Installation	18.7	3452.6	5627.5	1146.3	21473.2
77601-03-01	Eurocopter Pod Compatible Right Hand Installation	18.9	3452.6	5681.0	1212.9	22941.6
	Maximum Cargo (RH)	135.7	3452.6	468768.7	*	
77601-01-02	Low Left Hand Installation	18.7	3452.6	5627.5	-1166.0	-21842.9
77601-02-02	High Left Hand Installation	18.7	3452.6	5627.5	-1146.3	-21473.2
77601-03-02	Eurocopter Pod Compatible Left Hand Installation	18.9	3452.6	5681.0	-1212.9	-22941.6
	Maximum Cargo (LH)	135.7	3452.6	468768.7	*	

^{*}Lateral arm is same as basket configuration. Lateral moment is calculated with lateral arm.

3. Configuration 764 (Medium Basket)

The following weight and balance is for cargo baskets installed in accordance with drawing 76401.



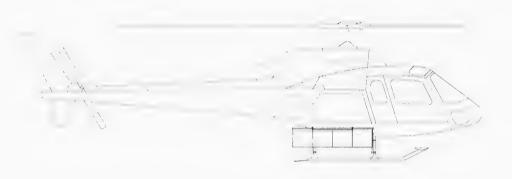
Standard

Description	Weight	Longitudinal		Lateral	
2000, p.1.011	VVoigit	arm	moment	arm	moment
	lb	in	in-lb	in	in-lb
Low Right Hand Installation	51.4	144.0	7401.5	46.7	2402.5
High Right Hand Installation	51.4	144.0	7401.5	46.0	2362.3
Eurocopter Pod Compatible Right Hand Installation	51.8	143.9	7455.0	48.6	2518.1
Maximum Cargo (RH)	250.0	144.0	36000.0	*	*
Low Left Hand Installation	51.4	144.0	7401.5	-46.7	-2402.5
High Left Hand Installation	51.4	144.0	7401.5	-46.0	-2362.3
Eurocopter Pod Compatible Left Hand Installation	51.8	143.9	7455.0	-48.6	-2518.1
Maximum Cargo (LH)	250.0	144.0	36000.0	*	*
	High Right Hand Installation Eurocopter Pod Compatible Right Hand Installation Maximum Cargo (RH) Low Left Hand Installation High Left Hand Installation Eurocopter Pod Compatible Left Hand Installation	Low Right Hand Installation 51.4 High Right Hand Installation 51.4 Eurocopter Pod Compatible Right Hand Installation 51.8 Maximum Cargo (RH) 250.0 Low Left Hand Installation 51.4 High Left Hand Installation 51.4 Eurocopter Pod Compatible Left Hand Installation 51.8	Low Right Hand Installation 51.4 144.0 High Right Hand Installation 51.4 144.0 Eurocopter Pod Compatible Right Hand Installation 51.8 143.9 Maximum Cargo (RH) 250.0 144.0 Low Left Hand Installation 51.4 144.0 High Left Hand Installation 51.4 144.0 Eurocopter Pod Compatible Left Hand Installation 51.8 143.9	arm moment in in-lb in in-lb in in-lb in in-lb in in-lb in-lb in-lb	arm moment arm in-lb in in-lb in in in in in in in in i

^{*}Lateral arm is same as basket configuration. Lateral moment is calculated with lateral arm.

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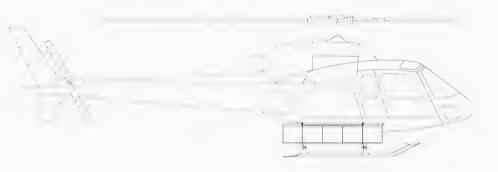
Metric

		METHE				
P/N	Description	Weight	Weight Longitudinal		Late	eral
			arm	moment	arm	moment
		kg	mm	mm-kg	mm	mm-kg
76401-01-01	Low Right Hand Installation	23.3	3657.6	85067.2	1187.2	27612.4
76401-02-01	High Right Hand Installation	23.3	3657.6	85067.2	1167.4	27150.9
76401-03-01	Eurocopter Pod Compatible Right Hand Installation	23.4	3655.5	85681.4	1234.7	28941.1
	Maximum Cargo (RH)	113.1	3657.6	413674.6	*	*
76401-01-02	Low Left Hand Installation	23.3	3657.6	85067.2	-1187.2	-27612.4
76401-02-02	High Left Hand Installation	23.3	3657.6	85067.2	-1167.4	-27150.9
76401-03-02	Eurocopter Pod Compatible Left Hand Installation	23.4	3655.5	85681.4	-1234.7	-28941.1
	Maximum Cargo (LH)	113.1	3657.6	413674.6	*	*

 $^{^*\}mbox{Lateral}$ arm is same as basket configuration. Lateral moment is calculated with lateral arm.

4. Configuration 784 (Long Basket).

The following weight and balance is for cargo baskets installed in accordance with drawing 78401.



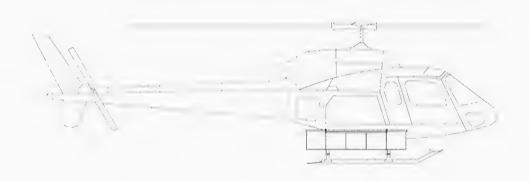
Standard

P/N	Description	Weight	Longitudinal		Lateral	
			arm	moment	arm	moment
		lb	in	in-lb	in	in-lb
78401-01-01	Low Right Hand Installation	63.9	136.0	8687.5	47.4	3026.8
78401-02-01	High Right Hand Installation	63.9	136.0	8687.5	46.6	2976.6
78401-03-01	Eurocopter Pod Compatible Right Hand Installation	64.3	135.9	8741.0	49.3	3167.4
	Maximum Cargo (RH)	250.0	136.0	34000.0	*	*
78401-01-02	Low Left Hand Installation	63.9	136.0	7401.5	-47.4	-3026.8
78401-02-02	High Left Hand Installation	63.9	136.0	7401.5	-46.6	-2976.6
78401-03-02	Eurocopter Pod Compatible Left Hand Installation	64.3	135.9	7455.0	-49.3	-3167.4
	Maximum Cargo (LH)	250.0	136.0	34000.0	*	*

^{*}Lateral arm is same as basket configuration. Lateral moment is calculated with lateral arm.

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Metric

		Metric				
P/N	Description	Weight	Longitudinal		Late	eral
			arm	moment	arm	moment
		kg	mm	mm-kg	mm	mm-kg
78401-01-01	Low Right Hand Installation	28.9	3453.3	99847.5	1203.1	34787.1
78401-02-01	High Right Hand Installation	28.9	3453.3	99847.5	1183.2	34210.6
78401-03-01	Eurocopter Pod Compatible Right Hand Installation	29.1	3452.9	100461.7	1251.2	36403.3
	Maximum Cargo (RH)	113.1	3453.3	390568.2	*	4
78401-01-02	Low Left Hand Installation	28.9	3453.3	99847.5	-1203.1	-34787.1
78401-02-02	High Left Hand Installation	28.9	3453.3	99847.5	-1183.2	-34210.6
78401-03-02	Eurocopter Pod Compatible Left Hand Installation	29.1	3452.9	100461.7	-1251.2	-36403.3
	Maximum Cargo (LH)	113.1	3453.3	390568.2	*	*

^{*}Lateral arm is same as basket configuration. Lateral moment is calculated with lateral arm.

VI INSTALLATION / REMOVAL INSTRUCTIONS

Cargo Baskets

The beams are installed in accordance with drawing 78602 or 78603 as applicable. The basket is installed in accordance with drawing 76401, 77601 or 78401, as applicable. Removal of the basket leaving the beams in place is an approved configuration for flight. Logbook entry indicating installation or removal of basket and which weight and balance amendment is in effect is required when basket is installed or removed.

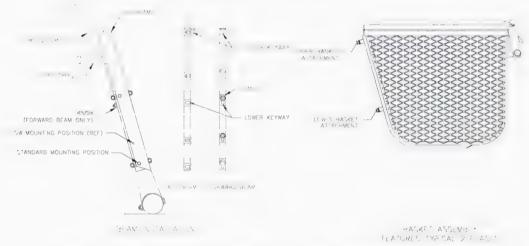


Figure 1 – Basket Attachment Features (Low beam installation shown. Beam attachment features typical for low and high beam installations)

- 5. Installation Refer to Figure 1 and Figure 2.
 - a) Set basket upper aft basket attachment into upper keyway in aft beam. Forward end of basket may rest on floor.
 - b) Lift basket from forward end, slide lower aft attachment into keyway on aft beam.
 - At forward attachment hoop, left basket until lower attachment fitting hits stop.
 - d) Push fitting into keyway and slide basket down until locked.

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- 2. Removal Refer to Figure 1 and Figure 2.
 - a) Pull knob at bottom end of forward beam and lift basket until attachment fittings are free of keyways.
 - b) Rotate basket up until lower aft attachment fitting is free of keyway. Rest forward end of basket on floor.
 - Slide basket forward and raise basket until upper aft attachment fitting is free of keyway.

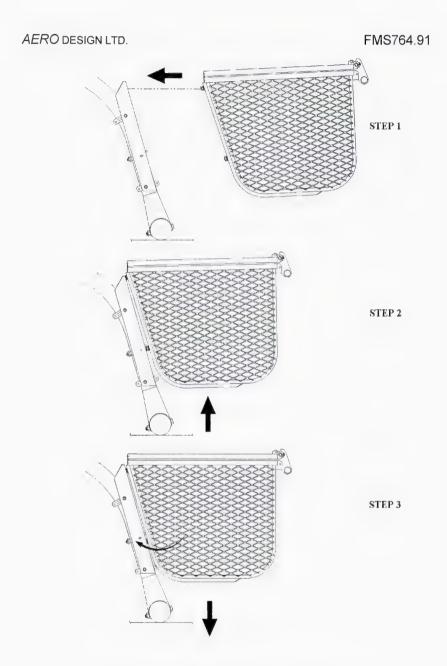


Figure 2 – Basket Attachment Steps (Installation instructions typical for all configurations).

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ENGINEERING REPORT ER764.05

EUROCOPTER AS350/AS355 SERIES

QUICK RELEASE MOUNTING PROVISIONS QUICK RELEASE CARGO BASKET

New Beam Configuration
Eurocopter Pod Compatible Clamp Configuration

Prepared by: Jeff Clarke, CET

Approved by: E. Burgoin, P.Eng., DAR 290M

Revision 0, 16 June 2010

AERO Design Ltd.
Engineering Consultants
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2013 - 39th Avenue N.E., Calgary, Alberta T2E 6R7

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1.0 INTRODUCTION

In order to reduce confusion over the many installation configurations available, the various configurations of beams have been simplified to a single pair of beams that are be used for all required configurations. The keyway configuration has been changed on the aft beam to a horizontal slot that allows for some variation in the spacing of the helicopter cross tubes. This report will demonstrate that the new beams can support the loads required.

It has been found that Eurocopter cargo compartment extenders ("squirrel cheeks") do not allow the lid of the basket to open fully. To correct for this condition, new attachment clamps were produced to shift the basket outboard by 2 inches. This report will demonstrate that the new clamps can support the loads required.

2.0 REFERENCE TEXT

AERO Design Ltd. Engineering Report ER764.01, TR764.02, TR764.04 AERO Design Ltd. Drawing 78633, 78634, 78621

3.0 BASIS OF CERTIFICATION

AS350 Series and AS355 Series: H-83/H-87

FAR 27, Amendment 27-20, plus select sections of later Amendments (AS355NP basis of certification).

This installation:

FAR 27, Amendment 27-20, plus select sections of later Amendments (AS355NP basis of certification).

4.0 APPLICABILITY OF AIRWORTHINESS DIRECTIVES

Airworthiness Directives applicable to the Eurocopter AS350 and AS355 Series were reviewed, and none were found to affect this project.

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5.0 LOADS

AS350 Series and AS355 Series, FAR 27:

FAR 27.561(b)(3)

Ultimate Upward Emergency Landing Load Factor: $n_{e \text{ up}} := 1.5$

Ultimate Forward Emergency Landing Load Factor: $n_{e \text{ fwd}} := 4.0$

Ultimate Sideward Emergency Landing Load Factor: $n_{e \text{ side}} := 2.0$

Ultimate Downward Emergency Landing Load Factor: $n_{e\ down} := 4.0$

FAR 27.625 Fitting Factor (does not apply to articles being tested): $n_{\rm ff} = 1.15$

FAR 27.303 Safety Factor: $n_{sf} := 1.5$

FAR 27.337(a)

Limit Positive Maneuvering Load Factor: $n_{man} := 3.5$

 $n_{man\ ult} := n_{man} \cdot n_{sf}$ Ultimate Positive Maneuvering Load Factor: $n_{man\ ult} = 5.25$

Limit Negative Maneuvering Load Factor: $n_{man neg} := -1.0$

 $n_{\text{man neg u}} := n_{\text{man neg}} \cdot n_{\text{sf}}$ Ultimate Negative Maneuvering Load Factor:

 $n_{\text{man neg u}} = -1.5$

CRITICAL ULTIMATE LOAD FACTORS:

Downward: Ultimate Positive Maneuvering Load Factor: $n_{man\ ult} = 5.25$

Forward: Ultimate Forward Emergency Landing Load Factor: $n_{e \text{ fivd}} = 4$

Sideward: Ultimate Sideward Emergency Landing Load Factor: $n_{e \text{ side}} = 2$

Upward: Ultimate Upward Emergency Landing Load Factor: $n_{e up} = 1.5$

Note: The basket is mounted below and to one side of the cabin. Forward deflection or failure in the emergency landing condition does not endanger the occupants. Likewise, Sideward and Upward deflection or failure of the basket in the emergency landing condition do not endanger the occupants.

Sideward and Upward Load Factors are used in the tests to ensure that the lid of the basket does not open in flight.

5.1 Inertia Loads

The short cargo basket can carry the most cargo, therefore the short cargo basket loads are critical.

5.1.1 Cargo Basket 77601 (Short Basket)

The inertia load for the short basket is highest, and will be used for testing of the light wall beams. The basket has already been demonstrated to carry 300 lbs cargo at ultimate load.

 $W_{basket} := 40 \cdot lbf$

Weight of short basket configuration

 $W_{cargo} := 300 lbf$

Weight of cargo (max)

P_{basket} := W_{basket} + W_{cargo}

 $P_{basket} = 340lbf$

Combined weight of basket and cargo

 $P_{lim\ man} := P_{basket} n_{man}$

 $P_{lim\ man} = 1190lbf$

Limit maneuvering load

 $P_{ult\ man} := P_{basket} n_{man\ ult}$

 $P_{ult\ man} = 1785lbf$

Ultimate maneuvering load

5.2 Drag Load

$$\rho := 0.002378 \frac{\text{slug}}{\text{ft}^3}$$

Density of air at Sea Level.

$$V_{ne} := 155 \cdot knots$$

Never-Exceed-Speed of AS350B3.

(Ref. AS350 TCDS)

(Highest of AS350/AS355 Series)

$$V_d := \frac{V_{ne}}{0.9}$$

$$V_d = 172 knots$$

Design Dive Speed of AS350B3

Height of basket.

I _{basket} := 97·in	Length of basket.
$w_{\text{basket}} := 22.5 \text{ in}$	Width of basket

 $h_{basket} := 19.25 in$

$$A_f := 376 \text{ in}^2$$
 Frontal Area of basket.

$$A_p := l_{basket} \cdot w_{basket}$$

$$A_p = 2183 in^2$$
 Planar Area of basket.

$$\frac{I_{\text{basket}}}{W_{\text{basket}}} = 4.3$$
 Fineness ratio of basket

$$C_{Do} := 1.1$$
 Drag Coefficient of Basket, (overestimated) (Ref. Hoerner, Fluid Dynamic Drag, Figure 22).

$$\begin{split} P_{drag} &:= \frac{\rho}{2} \cdot V_d^{\ 2} \cdot A_f \, C_{Do} \\ P_{drag} &= 289 lbf \end{split}$$
 Limt Drag on basket.

$$P_{drag_ult} := P_{drag} \cdot n_{sf}$$

$$P_{drag_ult} = 433lbf$$
 Ultimate Drag load on basket

$$AC_{drag} := 48.4 \, in$$
 Lateral Aerodynamic Center of basket. (Low configuration)

6.0 LOAD TEST

6.1 Test Setup

A scrap set of landing gear cross tubes and skid tube were setup as they would be installed on the helicopter. The free side of the cross tubes were clamped to a table to prevent tipping of the test setup under load. The attachment provisions were installed in accordance with drawing 78602 or 78603 (as applicable), using beams fabricated in accordance with drawing 78633 (aft beam) and 78634 (forward beam).

The maneuvering load is applied by stacking bags of lead shot (25 lbs each) into a basket installed on the beams. The drag load is applied with a chain come-along attached to a load cell, pulling on the aft face of the basket.

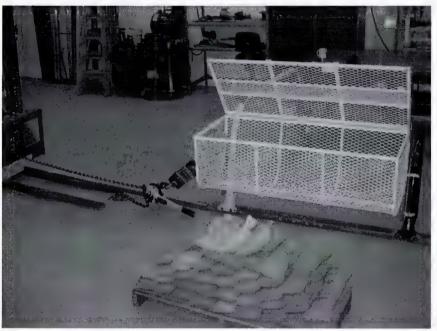


Figure 6.1.1 - Test Setup

The basket weight applies 1g down in addition to the lead shot applied in the maneuvering condition.

6.2 Beams Load Test

The beams were installed in the high position in accordance with drawing 78602 as this is the critical position for the basket relative to the attachments.

6.2.1 Limit Load

The limit loads on the short basket installation with 300 lbs of cargo are:

P_{lim_man} = 1190 lbs. Limit Positive Maneuvering Load

 P_{lim_drag} = 289 lbs. Limit Drag Load

The basket was loaded with 1200 lbs of lead shot (48 bags), and pulled aft 350 lbs. The basket weight applied 1g down (40 lbs) for a total of 1240 lbs. The load was applied for more than 3 seconds.



Figure 6.2.1 - Limit Maneuvering Load



Figure 6.2.2 – Limit Drag Load

The loads were removed and the beams checked for permanent deformation. There was no permanent deformation found.

6.2.2 Ultimate Load

The ultimate loads on the short basket installation with 300 lbs of cargo are:

P_{ult_man} = 1785 lbs.

Ultimate Positive Maneuvering Load

 $P_{ult\ drag} = 433\ lbs.$

Ultimate Drag Load

The basket was loaded with 1800 lbs of lead shot (72 bags), and pulled aft 460 lbs. The basket applied 1g down (40 lbs) for a total down load of 1840 lbs. The load was applied for more than 3 seconds.

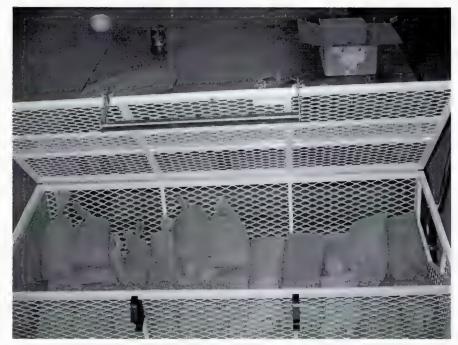


Figure 6.2.3 - Ultimate Maneuvering Load



Figure 6.2.4 - Ultimate Drag Load

The load was removed and the beams checked for permanent deformation and failure. There was slight deformation of both beams, about 1/8" on both beams. The deformation is not excessive and does not prevent removal or installation of the basket. The new configuration of beams in accordance with drawing 78633 and 78634 are sufficient for installation.

6.3 Eurocopter Pod Compatible Clamps Test

Testing of the Eurocopter pod compatible clamps is required to demonstrate that shifting the basket outboard by changing the clamp will not prevent the clamp from supporting the loads. The beams have been demonstrated previously and are not rechecked in this test.

Previous testing has demonstrated that the clamps do not shift or deform under limit loads. Therefore only ultimate loads are checked.

The attachment provisions were installed in accordance with drawing 78603.

6.3.1 Ultimate Load

The ultimate loads on the short basket installation with 300 lbs of cargo are:

 $P_{ult\ man} = 1785 lbs.$

Ultimate Positive Maneuvering Load

 $P_{ult\ drag} = 433 \ lbs.$

Ultimate Drag Load

The basket was loaded with 1800 lbs (72 bags) of lead shot, and pulled aft 470 lbs.



Figure 6.3.1 – Ultimate Maneuvering Load



Figure 6.3.2 - Ultimate Drag Load



Figure 6.3.3 – Forward Attachments



Figure 6.3.4 - Aft Attachments

The load was removed and the clamps were checked for permanent deformation, failure or slipping on the cross tube. There was no permanent deformation found, and the clamps did not slip on the cross tube. The Eurocopter pod compatible clamps fabricated in accordance with drawing 78621 are sufficient for installation.

AERO DESIGN LTD. 2013 – 39 Avenue N.E. Calgary, Alberta, T2E 6R7

SIGNED UNDERTAKING

Tel: 403-250-8027 Fax: 403-250-8333

In accordance with CAR 521_A	AERO Design Ltd. here			
Company to hold the approval document(s): undertake to carry out the responsibilities of a design approval document holder,				
as set out in Division VIII of Par	t V, Subpart 21 of the CARs, regarding:			
1. Technical capability,				
Service difficulty reporting	a			
3. Establishing a service dit				
4. Investigation of service d				
Mandatory changes,				
6. Transfers,				
7. Record keeping and loss	or disposal of records,			
8. Manuals,				
9\ Instructions for continued	d airworthiness, and			
10 Supplemental integrity in	structions			
/// A B				
Signature of Holden's authorized person:	27 July 20			
Signature of Floider's authorized person.	Date.			
President				
Position / Title:				
	f the CARs, Part V, Subpart 521, Chapter 160:			
	ees to administer the preceding responsibilities			
	oval(s) below, on a fee for service basis.			
Data referred to herein may be	iound in.			
Transport Canada file number:	C-10-807			
and / or Project Reference number:				
	764			
Approval Number:	764 SHQ8-16			
and / or				
and / or				
Approval Number:				
Approval Number:	SH08-16			
Approval Number:				
Approval Number: per: Signature	SH08-16 Signature of Holder's authorized person:			
Approval Number:	SH08-16 Signature of Holder's authorized person:			
Approval Number: per: Signature E. Burgoin Consultant Print Name Title	SH08-16 Signature of Holder's authorized person: E. Bugoin Print Name			
Approval Number: per: Signature E. Burgoin Consultant	SH08-16 Signature of Holder's authorized person: E. Bugoin			

DECLARATION OF CONFORMITY WITH THE CERTIFICATION BASIS

In accordance with Canadian Aviation Regulations Subpart 521, I hereby declare that the design of the Quick Release Mounting Provisions and Cargo Basket Installations, as detailed in the data approved by Transport Canada approval SH08-16, Issue 2, has been demonstrated to conform to the best of my knowledge to the basis of certification established by the Minister for that approval in file C-10-0807.

AERQ Design Ltd.

per: 170 7

E. Burgoin

Print Name

Consultant

17 September, 2010

Date

Tel: 403-250-8027 Fax: 403-250-8333 www.aerodesign.ca

17 September 2010

Transport Canada Aircraft Certification Division 11th Floor, Canada Place 9700 Jasper Avenue Edmonton, Alberta T5J 4E6

Attn: Jack Staal Your File: C-10-0807

Our File: 764

Re: Eurocopter AS350 Cargo Baskets

Jack,

Please find attached the following documents related to this project:

Modification Approval Request Application Form MOD764 Rev. 2

Regards,

É. Burgoin, P.Eng, DAR 290M

Encl.

	MODIFICATION APPROV	AL R	EQUEST AP	PLICAT	ION FO)RM	MOD7	64, Rev. 2
1.	NAME AND ADDRESS OF APPLICANT:	2.	IDENTIFICATION	OF PRODU	СТ			
	AERO Design Ltd. 2013 - 39th Avenue NE Calgary, Alberta T2E 6R7	MAKE: Eurocopter				DEL: AS350 (all AS355 (all		
	ALL CORRESPONDANCE TO: AERO Design Ltd. 2013 - 39th Avenue NE Calgary, Alberta T2E 6R7	SERIAL No.: All eligible				GISTRATIO		
3.	REQUEST FOR:							_
	A. SUPPLEMENTAL TYPE CERTIFICATE (STC)							
	B. STC/STA REVISION	\boxtimes	STC/STA No. S	H08-16	C-	10-080	7	
	C. LIMITED SUPPLEMENTAL TYPE CERTIFICATE (LSTC)							
	D. LIMITED STC/STA REVISION		LSTC/LSTA No					
	E. F.A.A. SUPPLEMENTAL TYPE CERTIFICATE							
	F. F.A.A. STC REVISION		STC No.					
	G. FAMILIARIZATION OF F.A.A. STC		STC No.					
	H. REPAIR DESIGN APPROVAL (RDC)							
	PARTS DESIGN APPROVAL (PDA)							
_			-,					
4.	TITLE OF MODIFICATION OR REPAIR: Quick Release Cargo Basket Installation							
5.	BRIEF DESCRIPTION OF MODIFICATION OR REPAIR: Installation of external attachment provisions; Installation of cargo	o basket	. Revision is to upd	late mountin	g configura	tions		
6.	APPLICABLE TYPE APPROVAL (TA) OR TYPE CERTIFICATE	E (TC) D	OCUMENTS:					
	A. TA NO. H-83/H-87 B. TC No.		C. OTHER					
7.	PROPOSED BASIS OF APPROVAL:							
	A. SAME AS TA 🛛 B. SAME AS TC 🗀		C. OTHER	(Please s	specify)			
8.				REQU	JIRED	FOR	DOT USE	ONLY
	DOCUMENTATION CHECKLIST				<u> </u>	RECEIVE	1	
_				YES	NO	YES	NO	DATE
_	COMPLIANCE PROGRAM				Х			
_	MASTER DRAWING LIST FLIGHT MANUAL SUPPLEMENT			X				
\vdash	MAINTENANCE MANUAL SUPPLEMENT			Х	Х			
-	INSTRUCTIONS FOR CONTINUING AIRWORTHINESS			х	^			
-	ENGINEERING REPORTS			X				
-	DESIGN DRAWINGS				Х			
	MANUFACTURE DRAWINGS & INSTALLATION INSTRUCTION	NS	-	х				
	ELECTRICAL LOAD ANALYSIS				Х			
	DRAFT STC, LSTC OR RDA				Х			
	WEIGHT AND MOMENT CHANGE			х				
	FLIGHT TEST DATA				Х			
	OTHER (Specify)							
9.	APPLICANT'S REMARKS:							
10.	In addition to the payment of Aircraft Certification approval fees as prescril incremental expenses as in Aviation Regulation Directive No. 3, or equival	bed in Ca lent, as a	nadian Aviation Regul pplicable. For further o	ations (CAR) details governi	Section 104, ing cost reco	I agree to reim very, refer to A	MA 513/4.	
	PER: And Say	Co	nsultant				27 July, 2	010
44	SIGNATURE OF APPLICANTS	TITLE					DATE	
11.								
	SIGNATURE OF REGIONAL ENGINEER						DATE	

C.G. LOCATION - LEVELING - ALIGNMENT - WEIGHING

AS350 Ballast

Correction of aircraft c.g.

1 EQUIPMENT REQUIRED

Also refer to "EQUIPMENT REQUIRED" section of documents referenced in 1.4.

1.1 Tools

None

1.2 Materials

None

1.3 Routine replacement parts

- Weight (1) IPC 55.20.10.01

Quantity: as per type of ballast loading used (See para. 6).

1.4 Applicable documents

Maintenance Manual (MET) Work Card 08.00.00.603.

2 PURPOSE

This operation modifies the Equipped Empty Weight (Operational Empty Weight) of the aircraft and enables C.G. to be held within the permissible range when operating at full load. It allows the User to vary the C.G. after special or optional equipment items are installed or in case of unusual loading.

CAUTION: FURTHER TO THIS OPERATION, AMEND THE FOLLOWING DOCUMENTS:

- THE APPENDIX A3 (WEIGHT AND BALANCE) OF THE FLIGHT MANUAL FOR THE AS 350 B AND D AIRCRAFT,
- THE WEIGHT AND BALANCE RECORD FOR THE AS 350 BA, BB, B1 AND B2 R AIRCRAFT.

3 PRINCIPLE

WARNING

THIS METHOD IS NOT APPLICABLE UNLESS THE FOLLOWING MODIFICATIONS HAVE BEEN EMBODIED ON THE AIRCRAFT.

- 07-0475 PROVISIONS FOR MOUNTING A 1.3-TO-5-KG BALLAST IN THE TAIL BOOM REAR FAIRING
- 07-0476 REINFORCEMENT OF THE TAIL BOOM FOR A BALLAST HIGHER THAN 5 KG
- 07-0477 PROVISIONS FOR MOUNTING A 5-TO-15-KG BALLAST IN THE TAIL BOOM REAR FAIRING (Post Mod. 07.0476)
- 07-1047 REINFORCEMENT OF FIN SPLICE-PLATES TO INCREASE THE CALCULATION RANGES
- 07-1364 REINFORCEMENT OF THE TAIL BOOM REAR FAIRING FOR MOUNTING A 20-KG BALLAST
- Depending on the aircraft weight and C.G. configuration found by weighing, determine the type of ballast loading required.
 350

08.00.00.

AS 350 B - BA - BB - B1 - B2 - D : Fig. 1

R

The type of ballast loading defines :

- The number of ballast discs required.
- The position of the discs : on the rear frame or in the tail boom rear fairing.

4 PROCEDURE

- 4.1 Weigh the aircraft without ballast (W.C. 08.00.00.603) to determine :
 - .operational Empty Weight (O.E.W) or (E.E.W)
 .centre of gravity (C.G.)
- 4.2 a) Enter the aircraft empty weight on the LH side of the chart.
 - . Draw a horizontal line (A) parallel to the weight lines on the chart.
 - b) Enter the aircraft C.G. at the bottom of the chart.
 - . Draw a line (B) parallel to the centre of gravity lines on the chart.
 - c) The point of intersection (1) of lines (A) and (B) defines the type of installation.
- 4.3 Refer to the table on the following page and note, for the appropriate ballast loading type:
 - .the number of disks and their position.
 - .weight and moment of the ballast.
- 4.4 Calculate the new Equipped (Operating) Empty Weight and the new C.G. locations using weight and moment data on chart page 3. Enter the new values on chart (Fig. 1). The point of intersection (2) should be within "NO BALANCE WEIGHT" area. If this is not the case, check all values and re-calculate the Empty Weight.

This method is applicable to all aircraft versions : use the corresponding charts.

- 4.5 Secure the ballast weights: Fig. 2
 - . to the fin spars (see DETAIL A)
 - . in the tail boom rear fairing (DETAIL B) ; divide the ballast equally on fore and aft faces of the frame.

CAUTION: THE LENGTH OF THE ATTACHING SCREWS MUST BE ADAPTED TO THE NUMBER OF DISKS

EXAMPLE

5.1 Aircraft mission with pilot, copilot and four passengers (Figure 1)

WEIGHT MOMENT C.G. - Helicopter weighed without ballast 1119.5 Kg 3954.07 mkg $3.532 \, \text{m}$ CORRECT AS FOLLOWS : - Point 1 on chart - Use .04 assembly (para. 6)

one plate on the rear frametwo plates in the tail boom rear fairing

- Weight and moment of ballast: 5.9 Kg 59.27 mkg

- Ballasted helicopter : 1125.4 Kg 4013.34 mkg

- C.G.: Moment = 4013.34 Weight 1125.4

= 3.566 m

- Plot this point on the chart - point 2

- This point represents the centre of gravity of the ballasted helicopter For versions : B and D

- Refer to Flight Manual Appendix No. 3.

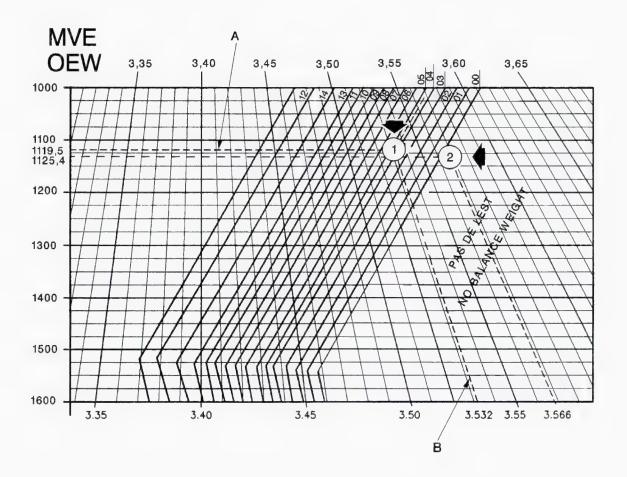
For versions: B1, B2, BA, BB, L1 - Refer to Flight Manual section 6. R R

R

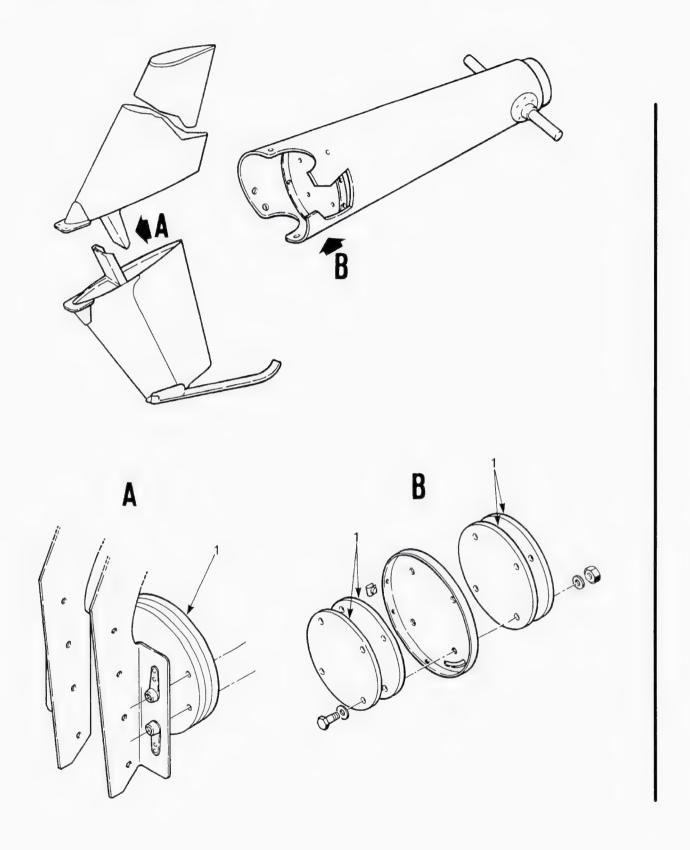
TYPES OF BALLAST LOADING TO BE USED

TYPE OF	NUMBER OF	DISKS	BAL	LAST
BALLAST LOADING	ON STUB SPARS (DETAIL A)	IN TAIL BOOM REAR FAIRING (DETAIL B)	Weight in kg	Moment in mkg
00 01 02 03	1 2 3 4	0 0 0 0	1.3 2.5 3.7 4.9	12.71 24.65 36.87 48.84
04 05 06 07	1 2 3 4	2 2 2 2	5.9 7.1 8.3 9.5	59.27 71.20 83.43 95.39
08 09 10 11 13 14	1 2 3 4 4 4 4	4 4 4 5 6 7 350	10.4 11.6 12.8 14.0 16.3 18.5 20.8	105.02 116.96 129.18 141.14 164.73 186.94 209.65 08.00.0

B-BA-BB-B1-B2-D



350



Waaraa	:=	240 lbf
'' cargo		210101

Weight of cargo (max)

$$P_{basket} = 300lbf$$

Combined weight of basket and cargo

$$P_{lim\ man} := P_{basket} \cdot n_{man}$$

$$P_{lim\ man} = 1050lbf$$

Limit maneuvering load

$$P_{ult_man} := P_{basket} \cdot n_{man_ult}$$

$$P_{ult_man} = 1575lbf$$

Ultimate maneuvering load

Weight of cargo (max)

$$P_{basket} := W_{basket} + W_{cargo}$$

$$P_{basket} = 310lbf$$

Combined weight of basket and cargo

$$P_{lim_man} := P_{basket} \cdot n_{man}$$

$$P_{lim\ man} = 1085lbf$$

Limit maneuvering load

$$P_{ult_man} := P_{basket} \cdot n_{man_ult}$$

$$P_{ult\ man} = 1628lbf$$

Ultimate maneuvering load

5.2 Drag Load

The drag on the large basket is critical. It is used for all tests.

$$\rho := 0.002378 \frac{slug}{ft^3}$$

Density of air at Sea Level.

 $V_{ne} := 155 \cdot knots$

Never-Exceed-Speed of AS350B3. (Ref. AS350 TCDS)

(Highest of AS350/AS355 Series)

$$V_d := \frac{V_{ne}}{0.9}$$

$$V_d = 172 knots$$

Design Dive Speed of AS350B3

 $l_{basket} := 97 \cdot in$ Length of basket.

 $w_{basket} := 22.5 in$ Width of basket

 $h_{basket} := 19.25 in$ Height of basket.

 $A_f := 376 \text{ in}^2$ Frontal Area of basket.

 $A_p := l_{basket} w_{basket}$

 $A_p = 2183 \text{in}^2$ Planar Area of basket.

 $\frac{I_{\text{basket}}}{I_{\text{basket}}} = 4.3$ Fineness ratio of basket

 $C_{Do} := 1.1$ Drag Coefficient of Basket, (overestimated) (Ref. Hoerner, Fluid Dynamic Drag, Figure 22).

 $P_{drag} := \frac{\rho}{2} \cdot V_d^2 \cdot A_f \cdot C_{Do}$

 $P_{drag} = 289lbf$ Limt Drag on basket.

 $P_{drag_ult} := P_{drag} \cdot n_{sf}$ $P_{drag_ult} = 4331bf$ Ultimate Drag load on basket

AC_{drag} := 48.4 in Lateral Aerodynamic Center of basket.

(Low configuration)

5.1 Inertia Loads

Cargo loads are incremented by 10 lbs up to 250 lbs for the medium and long configurations.

5.1.1 Cargo Basket 77601 (Short Basket)

The inertia load for the short basket is highest, and will be used for testing of the light wall beams. The basket has already been demonstrated to carry 300 lbs cargo at ultimate load.

$$W_{cargo} := 300 \, lbf$$

$$P_{basket} = 340lbf$$

$$P_{lim_man} := P_{basket} \cdot n_{man}$$

$$P_{lim\ man} = 1190lbf$$

$$P_{ult\ man} = 1785lbf$$

5.1.2 Cargo Basket 76401 (Medium Basket)

$$W_{cargo} := 200 \, lbf$$

$$P_{basket} := W_{basket} + W_{cargo}$$

$$P_{\text{basket}} = 2451bf$$

$$P_{lim_man} := P_{basket'} n_{man}$$

$$P_{lim\ man} = 858lbf$$

$$P_{ult_man} := P_{basket} \cdot n_{man_ult}$$

$$P_{ult\ man} = 1286lbf$$

1800 V

5.1 Inertia Loads

Cargo loads are incremented by 10 lbs up to 250 lbs for the medium and long configurations.

5.1.1 Cargo Basket 77601 (Short Basket)

The inertia load for the short basket is highest, and will be used for testing of the light wall beams. The basket has already been demonstrated to carry 300 lbs cargo at ultimate load.

 $W_{basket} := 40 \cdot lbf$

Weight of short basket configuration

 $W_{cargo} := 300 \, lbf$

Weight of cargo (max)

 $P_{basket} := W_{basket} + W_{cargo}$

 $P_{basket} = 340lbf$

Combined weight of basket and cargo

P_{lim man} := P_{basket}·n_{man}

 $P_{lim\ man} = 1190lbf$

Limit maneuvering load

 $P_{ult_man} := P_{basket} \cdot n_{man_ult}$

 $P_{ult\ man} = 1785lbf$

Ultimate maneuvering load

5.1.2 Cargo Basket 76401 (Medium Basket)

 $W_{basket} := 45 \cdot lbf$

Weight of medium basket configuration

 $W_{cargo} := 200 \, lbf$

Weight of cargo (max)

 $P_{basket} := W_{basket} + W_{cargo}$

 $P_{basket} = 245lbf$

Combined weight of basket and cargo

 $P_{lim\ man} := P_{basket} \cdot n_{man}$

 $P_{lim\ man} = 858lbf$

Limit maneuvering load

 $P_{ult\ man} := P_{basket} \cdot n_{man_ult}$

 $P_{ult\ man} = 1286lbf$

Ultimate maneuvering load

New Euroceptur Pod clamps.

 $l_{basket} := 97 \cdot in$

Length of basket.

 $w_{basket} := 22.5 in$

Width of basket

 $h_{basket} := 19.25 in$

Height of basket.

 $A_f := 376 \text{ in}^2$

Frontal Area of basket.

 $A_p := l_{basket} \cdot w_{basket}$

$$A_p = 2183 in^2$$

Planar Area of basket.

$$\frac{l_{basket}}{w_{basket}} = 4.3$$

Fineness ratio of basket

 $C_{Do} := 1.1$

Drag Coefficient of Basket, (overestimated) (Ref. Hoerner, Fluid Dynamic Drag, Figure 22).

$$P_{drag} := \frac{\rho}{2} \cdot V_d^2 \cdot A_f \cdot C_{Do}$$

$$P_{drag} = 289lbf$$

Limt Drag on basket.



Ultimate Drag load on basket

 $AC_{drag} := 48.4 \text{ in}$

Lateral Aerodynamic Center of basket. (Low configuration)





1100-9700 Jasper Avenue Edmonton, Alberta T5J 4E6

March 22, 2010

Your file Votre reference 764

Our file Notre reference C-10-0102 SH08-16

Aero Design Ltd. 2013 39th Avenue North East Calgary, Alberta Canada, T2E 6R7

ATTENTION: EDWARD BURGOIN

Dear Sirs:

SUBJECT: REVISION OF SUPPLEMENTAL TYPE CERTIFICATE NO. SH08-16 – ISSUE 2

DATED MARCH 22, 2010 – INSTALLATION OF EXTERNAL ATTACHMENT PROVISIONS AND CARGO BASKET – EUROCOPTER AS 350B, B1, B2, B3,

BA, AS350D, D1

EUROCOPTER FRANCE AS 355E,F,F1,F2, N, NP ISSUED TO AERO DESIGN

LTD.

This Supplemental Type Certificate (STC) is issued in response to your application. Included with the STC are the documents bearing the original Transport Canada signatures.

The transfer of this SH08-16 Issue 2 in the name of another person requires the prior approval from the Minister in accordance with Canadian Aviation Regulations (CAR) 521.357.

The requirements of CAR 561 apply where parts are manufactured and offered for sale. The provisions of CAR 571.06(4) should also be consulted.

A Canadian holder is required to fulfill the responsibilities of a Design Approval Document Holder in accordance with CAR 521, Division VIII, including the reporting of any service problems experienced with their product. Therefore, should you become aware of any defect, malfunction or failure resulting from the design change, it is your responsibility to submit a Service Difficulty Report to Transport Canada.

Yours truly,

D.S. Austen

Senior Engineer, Aircraft Certification

Prairie and Northern Region Phone: 780-495-5226

780-495-7963

Facs: Encl.



	MODIFICATION APPROV	AL R	EQUEST AF	PLICA	TION F	ORM	MOD	764, Rev
1.	1. NAME AND ADDRESS OF APPLICANT: 2. IDENTIFICATION OF PRODUCT C-/O-							
	AERO Design Ltd. 2013 - 39th Avenue NE Calgary, Alberta T2E 6R7	MAKE: Eurocopter			M	MODEL: AS350 (all models) AS355 (all models)		
	ALL CORRESPONDANCE TO:	SEI	RIAL No.:			GISTRATIC)
	AERO Design Ltd. 2013 - 39th Avenue NE		II eligible			All eligible		
	Calgary, Alberta T2E 6R7					, in ongibio		
3.	REQUEST FOR:			· · · · · · · · · · · · · · · · · · ·				
	A. SUPPLEMENTAL TYPE CERTIFICATE (STC)							
	B. STC/STA REVISION	\boxtimes	STC/STA No. S	H08-16	C-	10-010	2	
	C. LIMITED SUPPLEMENTAL TYPE CERTIFICATE (LSTC)				Ç	10-0/0	∠	
	D. LIMITED STC/STA REVISION		LSTC/LSTA No					
	E. F.A.A. SUPPLEMENTAL TYPE CERTIFICATE							
	F. F.A.A. STC REVISION		STC No.					
	G. FAMILIARIZATION OF F.A.A. STC		STC No.					
	H. REPAIR DESIGN APPROVAL (RDC)							
	I. PARTS DESIGN APPROVAL (PDA)							
4.	TITLE OF MODIFICATION OR REPAIR: Quick Release Cargo Basket Installation							
5.	BRIEF DESCRIPTION OF MODIFICATION OR REPAIR:							
	Installation of external attachment provisions; Installation of cargo	basket.						
6.	APPLICABLE TYPE APPROVAL (TA) OR TYPE CERTIFICATE	(TC) D(OCUMENTS:					
	A. TA NO. H-83/H-87 B. TC No.	(C. OTHER					
7.	PROPOSED BASIS OF APPROVAL:							
	A. SAME AS TA 🗵 B. SAME AS TC 🗌	(C. OTHER	(Please	specify)			
8.				REQI	JIRED	FOR	R DOT USE	ONLY
	DOCUMENTATION CHECKLIST					1.0	RECEIVED)
	COMPLIANCE PROGRAM			YES	NO	YES	NO	DATE
					X			
	MASTER DRAWING LIST			Х				
	FLIGHT MANUAL SUPPLEMENT			Х				
-	MAINTENANCE MANUAL SUPPLEMENT				Х			
	INSTRUCTIONS FOR CONTINUING AIRWORTHINESS			Х	ļ			
_	ENGINEERING REPORTS			X				
	DESIGN DRAWINGS				Х			
	MANUFACTURE DRAWINGS & INSTALLATION INSTRUCTIONS	3		X				
	ELECTRICAL LOAD ANALYSIS				Х			
	DRAFT STC, LSTC OR RDA				X			
	WEIGHT AND MOMENT CHANGE			X				
	FLIGHT TEST DATA				Х			
_	OTHER (Specify)							
	APPLICANT'S REMARKS:							
	in addition to the payment of Aircraft Certification approval fees as prescribe incremental expenses as in Aviation Regulation Directive No. 3, or equivalent	ed in Cana nt, as app	adlan Aviation Regular dicable. For further de	ions (CAR) S talls governin	Section 104, I	agree to reimi ery, refer to Af	burse Transpo VIA 513/4.	ort Canada
	PER: A Ky	Cons	sultant				2 February	, 2010
4	SIGNATURE OF APPLICANTS	TITLE					DATE	
11.	SIGNATURE OF REGIONAL ENGINEER NA. T. N					18	mar	2009

MSI 53 - Review of Supplemental Instructions for Continued Airworthiness

APPENDIX A-3 NORMAL CATEGORY ROTORCRAFT - CAR 527

BLOCK 1

Name of the applicant for the design change approval:

Aero Design Ltd.

Description of the design change:

Installation of Quick Release Cargo Basket on Eurocopter AS350 & AS355 Series

Certification Basis of design change and revision date:

FAR 27, Amendment 27-20

CAR Standard A527.1(c) Program showing how changes to supplemental ICA made by the applicant or by the manufacturers of products and appliances installed in the aeroplane pursuant to the design change will be distributed:

Section 0-3 of Supplemental ICA (ICA 764.90)

CAR Standard 513.05 (1) (g) (iv): Installation Instructions:

Installation Drawing 76401, 77601, 78401, 78601

BLOCK 2

Note: Enter "N/A" when no supplemental ICA are needed.

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
A527.2 (a) Manual(s) (a) The Instructions for Continued Airworthiness must be in the form of a manual or manuals as appropriate for the quantity of data to be provided.	ICA ref: Eurocopter AS350/AS355 Maintenance Manuals	Supplemental ICA ref: Single Manual (ICA764.90)
A527.2 (b) Practical arrangement (b) The format of the manual or manuals must provide for a practical arrangement.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual	Supplemental ICA ref: Arranged in ATA format
A527.3 The Instructions for Continued Airworthiness must contain the following manuals or sections, as appropriate, and information:		
A527.3 (a) Rotorcraft maintenance manual or section		
A527.3 (a) (1) (Introduction) (1) Introduction information that includes an explanation of the rotorcraft's features and data to the extent necessary for maintenance or preventive maintenance.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: Section 0-1
A527.3 (a) (2) (Description) (2) A description of the rotorcraft and its systems and installations including its engines, rotors, and appliances.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: Section 0-5

MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
A527.3 (a) (3) Control & Operation (3) Basic control and operation information describing how the rotorcraft components and systems are controlled and how they operate, including any special procedures and limitations that apply.	ICA ref: Eurocopter Description and Operation Manual	Supplemental ICA ref: N/A
A527.3 (a) (4) Servicing (4) Servicing information that covers details regarding servicing points, capacities of tanks, reservoirs, types of fluids to be used, pressures applicable to the various systems, location of access panels for inspection and servicing, locations of lubrication points, lubricants to be used, equipment required for servicing, tow instructions and limitations, mooring, jacking, and levelling information.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 12	Supplemental ICA ref: N/A
A527.3 The Instructions for Continued Airworthiness must contain the following manuals or sections, as appropriate, and information:		
A527.3 (b) Maintenance Instructions. A527.3 (b) (1) Scheduling		
1) Scheduling information for each part of the rotorcraft and its engines, auxiliary power units, rotors, accessories, instruments, and equipment that provides the recommended periods at which they should be cleaned, inspected, adjusted, tested, and lubricated, and the degree of inspection, the applicable wear tolerances, and work recommended at these periods. However, the applicant may refer to an accessory, instrument, or equipment manufacturer as the source of this information if the applicant shows that the item has an exceptionally high degree of complexity requiring specialized maintenance techniques, test equipment, or expertise. The recommended overhaul periods and necessary cross-references to the Airworthiness Limitations section of the manual must also be included. In addition, the applicant must include an inspection program that includes the frequency and extent of the inspections necessary to provide for the continued airworthiness of the rotorcraft.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 5	Supplemental ICA ref: Section 5-1
A527.3 (b) (2) Troubleshooting (2) Troubleshooting information describing probable malfunctions, how to recognize those malfunctions, and the remedial action for those malfunctions.	ICA ref: N/A	Supplemental ICA ref: N/A

MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
A527.3 (b) (3) Removal/replacement (3) Information describing the order and method of removing and replacing products and parts with any necessary precautions to be taken.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 25	Supplemental ICA ref: Section 25-1 thru 25-4
A527.3 (b) (4) General (4) Other general procedural instructions including procedures for system testing during ground running, symmetry checks, weighing and determining the center of gravity, lifting and shoring, and storage limitations.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 7 and 8	Supplemental ICA ref: Section 25-5
A527.3 (c) Access (c) Diagrams of structural access plates and information needed to gain access for inspections when access plates are not provided.	ICA ref: N/A	Supplemental ICA ref: N/A
A527.3 (d) Special inspections (d) Details for the application of special inspection techniques including radiographic and ultrasonic testing where such processes are specified.	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 5	Supplemental ICA ref: Section 5-1
A527.3 (e) Protective treatment (e) Information needed to apply protective treatments to the structure after inspection.	ICA ref: Eurocopter Standard Practices Manual, Chapter 20	Supplemental ICA ref: Section 5-3
A527.3 (f) Fasteners, torque values, etc (f) All data relative to structural fasteners such as identification, discard recommendations, and torque values.	ICA ref: Eurocopter Standard Practices Manual, Chapter 20	Supplemental ICA ref: Section 25-6
A527.3 (g) Special tools (g) A list of special tools needed.	ICA ref: Eurocopter Tools Catalog	Supplemental ICA ref: N/A

BLOCK 3

Note: The statement in block 5 does not constitute an approval of the Airworthiness Limitations Section. Airworthiness Limitations differ from other maintenance tasks, in that they are mandatory, as a direct condition of the approval of the type design. They are therefore referenced directly in the approval document itself. However, they must also be included in the Supplemental Instructions for Continued Airworthiness.

A527.4 AWL - Separate Section 1 The Instructions for Continued Airworthiness must contain a section titled Airworthiness Limitations that is segregated and clearly distinguishable from the rest of the document. This section must set forth each mandatory replacement time, structural inspection interval, and related structural inspection procedure approved under 527.571. If the Instructions for Continued Airworthiness consist of multiple documents, the section required by this paragraph must be included in the principal manual. This section must contain a legible statement in a prominent location that reads: "The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister."	ICA ref: Eurocopter AS350/AS355 Maintenance Manual, Chapter 4	Supplemental ICA ref: Chapter 4	
The Supplemental ICA referenced above comprises that supports this change in type design. Applicants Signature: Applicants Name: E. Burgoin, P.Eng, DAR 290M	the complete listing of supplemental ICA nec	essary to show compliance with the regulatory Date:	

The design change is adequately supported by existing ICA and/or supplemental ICA, as identified above and is acceptable to the Minister.

Phone # 780-495-5227

Date: 22 MARCH ZOO

Reviewer's Name: 5. STACK

Signature: Stad

Email: @tc.gc.cc Mail Routing Symbol: RAED

NAPA Number _

C-10-0102

AS350 & AS355 SERIES HELICOPTERS

ROTORCRAFT FLIGHT MANUAL SUPPLEMENT

for the

INSTALLATION of the AERO DESIGN QUICK RELEASE CARGO BASKET AND/OR QUICK RELEASE MAINTENANCE STEP

CARGO BASKET MODELS: 76401, 77601, 78401

TCCA Supplemental Type Certificate No. SH08-16 FAA Supplemental Type Certificate No. SR02680NY

Sections I, II, III and IV of this document comprise the Transport Canada Approved sections of this Flight Manual Supplement. Compliance with Section I, Limitations, is mandatory. Section V and any subsequent sections if present are Unapproved and are provided for information only.

The information and data contained in this Flight Manual Supplement supersede or supplement that contained in the basic Approved Flight Manual for the Eurocopter AS350 and AS355 Series Helicopters when fitted with the Quick Release Cargo Basket Installation and/or Quick Release Maintenance Step Installation. For limitations, procedures and performance not listed in this Flight Manual Supplement refer to the Approved Flight Manual and other approved Flight Manual Supplements.



Revision 1 29 January, 2010 Page 1
TRANSPORT CANADA APPROVED

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Record of Revisions

Revision	Issue Date	Pages Revised	Date Inserted	Ву
0	25 Feb, 2008	None		
1	29 Jan, 2010	All		

I LIMITATIONS

- The maximum load in the AERO Design Ltd. Quick Release Cargo Basket Models 764 and 784 is 250 lb. (113 kg). The maximum load in the AERO Design Ltd. Quick Release Cargo Basket Model 776 is 300 lb. (135.7 kg).
- Only one basket may be installed on the helicopter, on the right or left side.
- 3. Flight operations limited to VFR conditions with AERO Design Ltd. Quick Release Cargo Basket installed.
- 4. V_{NE} is unchanged from the basic rotorcraft.
- 5. AS355NP only: For Category A operations, the basket must be removed. Mounting provisions may be left in place.

II NORMAL PROCEDURES

- 1. Pre-flight inspections:
 - a) Ensure that all cargo stored in the cargo basket is properly tied down and secured for flight.
 - b) Ensure that the lid of cargo basket is closed and secured.
 - Ensure the basket is locked in postion on the beams. Pull up on the forward and aft end of the basket to check.

CAUTION

It is possible to exceed the lateral centre of gravity limits of the rotorcraft under some loading conditions. Pilots must ensure that lateral C of G is within limits when loading the basket.

III EMERGENCY PROCEDURES

No change from basic Approved Flight Manual.

IV PERFORMANCE

- Cruise performance and range will be reduced by approximately 8 percent with the Cargo Basket Installed.
- 2. AEO climb performance will be reduced by up to 150 fpm.

Revision 1 29 January, 2010 TRANSPORT CANADA APPROVED

MAR 2 2 2010

V WEIGHT AND BALANCE

This section contains weight and balance information for cargo basket models 76401, 77601, and 78401. Each model has multiple configurations. Refer to the weight and balance information applicable to model and configuration installed.

Weight and balance is for Cargo Basket only. Mounting beams are not included since they should have been included in the basic rotorcraft weight and balance at time of initial installation.

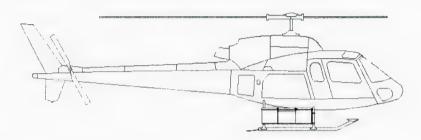
Longitudinal and Lateral moment arms for Cargo are given only for the center of the Cargo Basket. Due to the length of the basket, some loading arrangements may require that actual moment arms be measured, to determine the correct moments about the center of gravity.

CAUTION:

It is possible to exceed lateral CG limits in some configurations.

FMS764.91

 MODEL 77601 (Short Basket). The following weight and balance is for the cargo basket installed in accordance with drawing 77601.



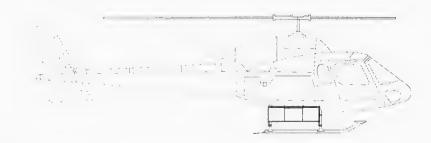
A) Configuration 77601-01 (Short Basket, Low mounted)

Standard

P/N	Description	Weight	Longitudinal		Lateral	
			arm	moment	arm	moment
		lb	in	in-lb	in	in-lb
77610-01	Basket (RH)	35.0	135.7	4749.5	48.1	1683.5
	Maximum Cargo (RH)	300.0	135.7	40710.0	48.1	14430.0
77610-01	Basket (LH)	35.0	135.7	4749.5	-48.1	-1683.5
	Maximum Cargo (LH)	300.0	135.7	40710.0	-48.1	-14430.0

P/N	Description	Weight	Longitudinal		Lateral	
			arm	moment	arm	moment
		kg	mm_	mm-kg	mm	mm-kg
77610-01	Basket (RH)	15.8	3446.8	54587.0	1221.7	19348.8
	Maximum Cargo (RH)	135.7	3446.8	467730.8	1221.7	165784.7
77610-01	Basket (LH)	15.8	3446.8	54587.0	-1221.7	-19348.8
	Maximum Cargo (LH)	135.7	3446.8	467730.8	-1221.7	-165784.7

FMS764.91



B) Configuration 77601-03 (Short Basket, Mid mounted)

Standard

- Critical a								
P/N	Description	Weight	Longitudinal		Lateral			
			arm	moment	arm	moment		
		lb	in	in-lb	in	in-lb		
77610-01	Basket (RH)	35.0	135.7	4749.5	46.5	1627.5		
	Maximum Cargo (RH)	300.0	135.7	40710.0	46.5	13950.0		
77610-01	Basket (LH)	35.0	135.7	4749.5	-46.5	-1627.5		
	Maximum Cargo (LH)	300.0	135.7	40710.0	-46.5	-13950.0		

P/N	Description	Weight	Long	gitudinal	La	teral
			arm	moment	arm	moment
		kg	mm	mm-kg	mm	mm-kg
77610-01	Basket (RH)	15.8	3446.8	54587.0	1181.1	18705.2
	Maximum Cargo (RH)	135.7	3446.8	467730.8	1181.1	160275.3
77610-01	Basket (LH)	15.8	3446.8	54587.0	-1181.1	-18705.2
	Maximum Cargo (LH)	135.7	3446.8	467730.8	-1181.1	-160275.3

FMS764.91



C) Configuration 77601-02 (Short Basket, High mounted)

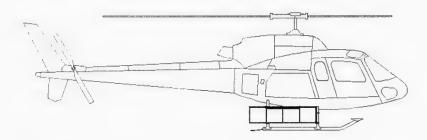
Standard

P/N	Description	Weight	Longitudinal		Lateral	
			arm	moment	arm	moment
		lb	in	in-lb	in	in-lb
77610-01	Basket (RH)	35.0	135.7	4749.5	45.6	1596.0
	Maximum Cargo (RH)	300.0	135.7	40710.0	45.6	13680.0
77610-01	Basket (LH)	35.0	135.7	4749.5	-45.6	-1596.0
	Maximum Cargo (LH)	300.0	135.7	40710.0	-45.6	-13680.0

P/N	Description	Weight	Longitudinal		Lateral	
			arm	moment	arm	moment
		kg	mm	mm-kg	mm	mm-kg
77610-01	Basket (RH)	15.8	3446.8	54587.0	1158.2	18343.2
	Maximum Cargo (RH)	135.7	3446.8	467730.8	1158.2	157167.7
77610-01	Basket (LH)	15.8	3446.8	54587.0	-1158.2	-18343.2
	Maximum Cargo (LH)	135.7	3446.8	467730.8	-1158.2	-157167.7

FMS764.91

MODEL 76401 (Medium Basket). The following weight and balance is for the cargo basket installed in accordance with drawing 76401.

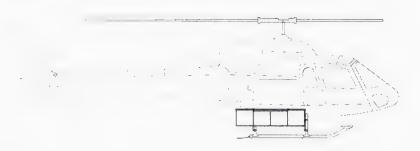


A) Configuration 76401-01 (Medium Basket, Low Mounted)

Standard

		Ctarraar				
P/N	Description	Weight Longitudinal		tudinal	Lateral	
			arm	moment	arm	moment
		lb	in	in-lb	in	in-lb
76410- 01-01	Basket (RH)	45.0	144.9	6520.5	48.6	2187.0
	Maximum Cargo (RH)	250.0	144.9	36225.0	48.6	12150.0
76410- 01-02	Basket (LH)	45.0	144.9	6520.5	-48.6	-2187.0
	Maximum Cargo (LH)	250.0	144.9	36225.0	-48.6	-12150.0

P/N	Description	Weight Longitudinal Later		teral		
			arm	moment	arm	moment
		kg	mm	mm-kg	mm	mm-kg
76410- 01-01	Basket (RH)	20.4	3680.5	74941.5	1234.4	25135.7
	Maximum Cargo (RH)	113.1	3680.5	416264.6	1234.4	139610.6
76410- 01-02	Basket (LH)	20.4	3680.5	74941.5	-1234.4	-25135.7
	Maximum Cargo (LH)	113.1	3680.5	416264.6	-1234.4	-139610.6



B) Configuration 76401-03 (Medium Basket, Mid Mounted)

Standard

		O(dilletti.				
P/N	Description	Weight	Longitudinal		Lateral	
			arm	moment	arm	moment
		lb	in	in-lb	in	in-lb
76410- 01-01	Basket (RH)	45.0	144.9	6520.5	47.0	2115.0
	Maximum Cargo (RH)	250.0	144.9	36225.0	47.0	11750.0
76410- 01-02	Basket (LH)	45.0	144.9	6520.5	-47.0	-2115.0
	Maximum Cargo (LH)	250.0	144.9	36225.0	-47.0	-11750.0

		Motrio				
P/N	Description	Weight	Longitudinal		Lateral	
			arm	moment	arm	moment
		kg	mm	mm-kg	mm	mm-kg
76410- 01-01	Basket (RH)	20.4	3680.5	74941.5	1193.8	24308.1
	Maximum Cargo (RH)	113.1	3680.5	416264.6	1193.8	135018.8
76410- 01-02	Basket (LH)	20.4	3680.5	74941.5	-1193.8	-24308.1
	Maximum Cargo (LH)	113.1	3680.5	416264.6	-1193.8	-135018.8

FMS764.91



C) Configuration 76401-02 (Medium Basket, High Mounted)

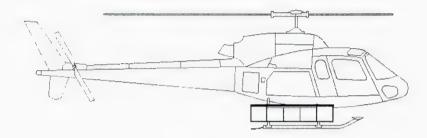
Standard

P/N	Description	Weight	Longitudinal		Lateral	
			arm	moment	arm	moment
		lb	in	in-lb	in	in-lb
76410- 01-01	Basket (RH)	45.0	144.9	6520.5	46.1	2074.5
	Maximum Cargo (RH)	250.0	144.9	36225.0	46.1	11525.0
76410- 01-02	Basket (LH)	45.0	144.9	6520.5	-46.1	-2074.5
	Maximum Cargo (LH)	250.0	144.9	36225.0	-46.3	-11525.0

P/N	Description	Weight	Long	itudinal	La	teral
			arm	moment	arm	moment
		kg	mm	mm-kg	mm	mm-kg
76410- 01-01	Basket (RH)	20.4	3680.5	74941.5	1170.9	23842.7
	Maximum Cargo (RH)	113.1	3680.5	416264.6	1170.9	132428.8
76410- 01-02	Basket (LH)	20.4	3680.5	74941.5	-1170.9	-23842.7
	Maximum Cargo (LH)	113.1	3680.5	416264.6	-1170.9	-132428.8

FMS764.91

3. **MODEL 78401 (Long Basket)**. The following weight and balance is for the cargo basket installed in accordance with drawing 78401.



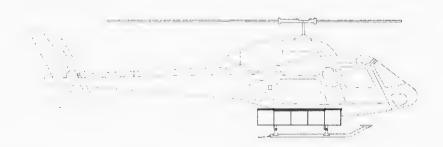
A) Configuration 78401-01 (Long Basket, Low Mounted)

Standard

		Otalidali				
P/N	Description	Weight	Longitudinal		Lateral	
			arm	moment	arm	moment
		lb	in	in-lb	in	in-lb
78410-01	Basket (RH)	57.5	135.7	7802.8	48.4	2783.0
	Maximum Cargo (RH)	250.0	135.7	33925.0	48.4	12100.0
78410-01	Basket (LH)	57.5	135.7	7802.8	-48.4	-2783.0
	Maximum Cargo (LH)	250.0	135.7	33925.0	-48.4	-12100.0

P/N	Description	Weight	Longitudinal		Lateral	
			arm	moment	arm	moment
		kg	mm	mm-kg	mm	mm-kg
78410-01	Basket (RH)	26.0	3446.8	89678.7	1229.4	31985.6
	Maximum Cargo (RH)	113.1	3446.8	311925.8	1229.4	139045.1
78410-01	Basket (LH)	26.0	3446.8	89678.7	-1229.4	-31985.6
	Maximum Cargo (LH)	113.1	3446.8	311925.8	-1229.4	-139045.1

FMS764.91



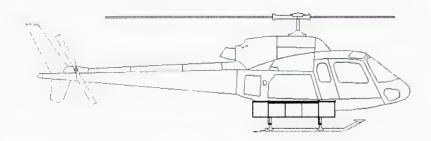
B) Configuration 78401-03 (Long Basket, Mid Mounted)

Standard

		Otaliaal.				
P/N	Description	Weight	Longitudinal		Lateral	
			arm	moment	arm	moment
		lb	in	in-lb	in	in-lb
78410-01	Basket (RH)	57.5	135.7	7802.8	47.0	2702.5
	Maximum Cargo (RH)	250.0	135.7	33925.0	47.0	11750.0
78410-01	Basket (LH)	57.5	135.7	7802.8	-47.0	-2702.5
	Maximum Cargo (LH)	250.0	135.7	33925.0	-47.0	-11750.0

P/N	Description	Weight	Long	itudinal	La	iteral
			arm	moment	arm	moment
		kg	mm	mm-kg	mm	mm-kg
78410-01	Basket (RH)	26.0	3446.8	89678.7	1193.8	31060.4
	Maximum Cargo (RH)	113.1	3446.8	311925.8	1193.8	135018.8
78410-01	Basket (LH)	26.0	3446.8	89678.7	-1193.8	-31060.4
	Maximum Cargo (LH)	113.1	3446.8	311925.8	-1193.8	-135018.8

FMS764.91



C) Configuration 78401-02 (Long Basket, High Mounted)

Standard

		Standar	ч			
P/N	Description	Weight	nt Longitudinal		Lateral	
			arm	moment	arm	moment
		lb	in	in-lb	in	in-lb
78410-01	Basket (RH)	57.5	135.7	7802.8	46.1	2650.8
	Maximum Cargo (RH)	250.0	135.7	33925.0	46.1	11525.0
78410-01	Basket (LH)	57.5	135.7	7802.8	-46.1	-2650.8
	Maximum Cargo (LH)	250.0	135.7	33925.0	-46.1	-11525.0

P/N	Description	Weight	Long	Longitudinal		teral
			arm	moment	arm	moment
		kg	mm	mm-kg	mm	mm-kg
78410-01	Basket (RH)	26.0	3446.8	89678.7	1170.9	30465.6
	Maximum Cargo (RH)	113.1	3446.8	311925.8	1170.9	132428.8
78410-01	Basket (LH)	26.0	3446.8	89678.7	-1170.9	-30465.6
	Maximum Cargo (LH)	113.1	3446.8	311925.8	-1170.9	-132428.8

VI INSTALLATION / REMOVAL INSTRUCTIONS

Cargo Baskets

The beams are installed in accordance with 78601. The basket is installed in accordance with drawing 76401, 77601 or 78401, as applicable. Removal of the basket leaving the beams in place is an approved configuration for flight. Logbook entry indicating installation or removal of basket and which weight and balance amendment is in effect is required when basket is installed or removed.

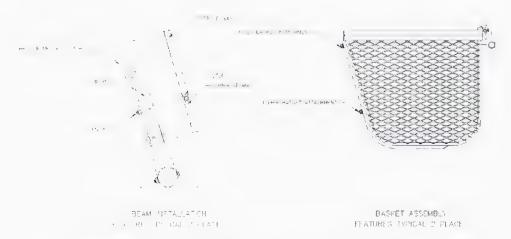


Figure 1 – Basket Attachment Features (Low beam installation shown. Beam attachment features typical for low and high beam installations)

- 4. Installation Refer to Figure 1 and Figure 2.
 - a) Set basket upper attachment into upper keyway in forward and aft beams.
 - At forward attachment hoop, lift basket until lower attachment fitting hits stop.
 - c) Push fitting into keyway and slide basket down until locked.
 - d) Repeat step a,b and c for aft attachment hoop.

FMS764.91

- 2. Removal Refer to Figure 1 and Figure 2.
 - a) Pull knob at bottom end of forward beam and lift basket until lower attachment fitting is free of keyway. Keep upper basket attachment in keyway on beam.
 - b) Pull knob at bottom end of aft beam and lift basket until lower attachment fitting is free of keyway. Keep upper basket attachment in keyway on beam.
 - c) Lift basket until upper attachments are out of keyways on both beams and remove basket from helicopter.

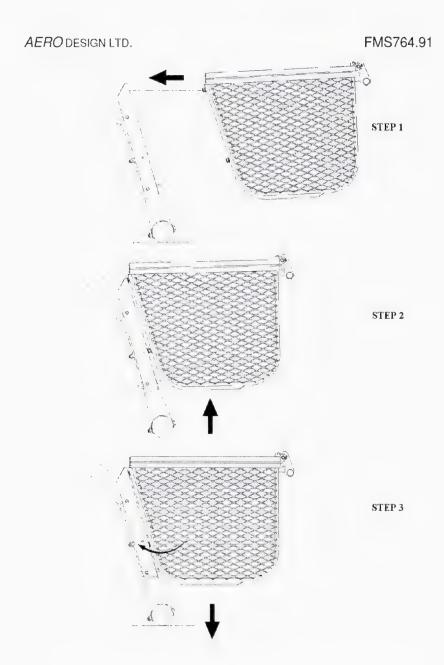


Figure 2 – Basket Attachment Steps (Low basket installation shown. Installation instructions typical for low and high basket installation).



Department of Transport

Supplemental Type Certificate

This approval is issued to: Number: SH08-16

Aero Design Ltd. Issue No.: 1

2013 39th Avenue North East April 11, 2008

Calgary, Alberta Issue Date: April 11, 2008

Canada T2E 6R7

Responsible Office: Prairie and Northern

Aircraft/Engine Type or Model: EUROCOPTER AS 350 B, AS 350 B1, AS 350 B2, AS 350 B3,

AS 350 BA, AS 350 D, AS 350 D1,

EUROCOPTER FRANCE AS 355 E, AS 355 F, AS 355 F1, AS

355 F2, AS 355 N, AS 355 NP

Canadian Type Certificate or Equivalent: H-83, H-87

Description of Type Design Change: Installation of External Attachment Provisions and Cargo

Basket.

Installation/Operating Data, Required Equipment and Limitations:

Configuration A – External Attachment Provisions Only:

Installation of External Attachment Provisions to be completed in accordance with Transport Canada approved, AERO Design Ltd. Document Control List, DCL786-1, Revision 0, dated 06 March 2008, or later approved revision.

External Attachment Provisions installed in accordance with DCL786-1 may remain installed if the basket installation is removed.

Configuration B - External Cargo Basket (Short Basket):

Installation of Configuration A, External Attachment Provisions, is a prerequisite for installation of Configuration B, External Cargo Basket Installation. Installation of Quick Release Cargo Basket to be completed in accordance with Transport Canada approved, AERO Design Ltd. Document Control List, DCL776-1, Revision 0, dated 06 March 2008, or later approved revision.

...See Continuation Sheet

Conditions: This approval is only applicable to the type/model of aeronautical product specified therein. Prior to incorporating this modification, the installer shall establish that the interrelationship between this change and any other modification(s) incorporated **will not** adversely affect the airworthiness of the modified product.

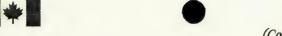
D.S. Austen
For Minister of Transport



A transfer of ownership requires a prior approval from the Minister.

The reissue of the certificate in the name of the transferee will be contingent upon a demonstration made by the new owner that he/she can fulfill the responsibilities of the holder as described in airworthiness manual chapter 513.

SIGNATURE (OF ORIGINAL OWNER)				
DATE OF TRANSFER				
DATE OF TRANSFER				
TRANSFER PARTICULARS (LICENCE AGREEMENT, SALE OF RIGHTS, ETC.)				
FROM (NAME AND ADDRESS OF OWNER)				
TO (NAME AND ADDRESS OF TRANSFEREE)				
TRANSFER OF OWNERSHIP				



(Continuation Sheet)

Number: SH08-16 Issue 1

NOTE: THIS ADDENDUM SHALL REMAIN PART OF THE CERTIFICATE REFERRED TO THEREIN.

Configuration C – External Cargo Basket (Short Basket – Alternate):

Installation of Configuration A, External Attachment Provisions, is a prerequisite for installation of Configuration C, External Cargo Basket Installation. Installation of Quick Release Cargo Basket to be completed in accordance with Transport Canada approved, AERO Design Ltd. Document Control List, DCL776-2, Revision 0, dated 06 March 2008, or later approved revision.

Configuration D - External Cargo Basket (Medium Basket):

Installation of Configuration A, External Attachment Provisions, is a prerequisite for installation of Configuration D, External Cargo Basket Installation. Installation of Quick Release Cargo Basket to be completed in accordance with Transport Canada approved, AERO Design Ltd. Document Control List, DCL764-1, Revision 0, dated 06 March 2008, or later approved revision.

Configuration E - External Cargo Basket (Long Basket)

Installation of Configuration A, External Attachment Provisions, is a prerequisite for installation of Configuration E, External Cargo Basket Installation. Installation of Quick Release Cargo Basket to be completed in accordance with Transport Canada approved, AERO Design Ltd. Document Control List, DCL784-1, Revision 0, dated 06 March 2008, or later approved revision.

Configuration F - External Cargo Basket (Long Basket - Alternate)

Installation of Configuration A, External Attachment Provisions, is a prerequisite for installation of Configuration F, External Cargo Basket Installation. Installation of Quick Release Cargo Basket to be completed in accordance with Transport Canada approved, AERO Design Ltd. Document Control List, DCL784-2, Revision 0, dated 06 March 2008, or later approved revision.

Cargo Basket Modifications:

Modifications to the Cargo Basket configurations are eligible in accordance with Transport Canada approved, AERO Design Ltd., Document Control List DCL704, Revision 2, dated 19 March 2008, or later approved revision. Eligibility limitations are noted on the drawings.

Data Pertinent to All Configurations:

Transport Canada approved, AERO Design Ltd. Flight Manual Supplement FMS764-91, Revision 0, dated 25 February 2008, or later approved revision is required with this installation.

...See Continuation Sheet



(Continuation Sheet)

Number: SH08-16 Issue 1

NOTE: THIS ADDENDUM SHALL REMAIN PART OF THE CERTIFICATE REFERRED TO THEREIN.

Transport Canada accepted, AERO Design Ltd. Instructions for Continued Airworthiness ICA764-90, Revision 0, dated 25 February 2008, or later accepted revision is required with this installation.

Basis of Certification: FAR 27 amendment 20, plus select paragraphs of amendment 21 (AS355NP basis not including Cat A). Airworthiness Manual Chapter 527.1581 – SI units.

- End -

DOCUMENT NO.	DOCU	MENT CONTENT	REVISION
INSTALLATION DOCUMENTS			
78601	Basket Installation Provision		1
ICA764.90	Instructions for Con	tinued Airworthiness	0
FABRICATION DOCUMENTS			
DCL786-3	Document Control I	ist - Provision Assembly	1
ENGINEERING DOCUMENTS			
APPROVAL:			
TOU TO THE RESIDENCE OF THE PARTY OF THE PAR	ORIGINAL DATE: 06 March 2008	AERO DESIG	GN LTD.
E. DOTTGOIN DAR 290M	REVISION DATE: 05 March 2009	2013 – 39 th Ave NE, Calgary, Ph. (403) 250-8 Fax. (403) 250-8	027
Stice Ji6	SHEET 1 OF 1	Eurocopter AS350 & Basket Prov Installatio	ision
April 11,2008	DC	L786-1	Rev.

DOCUMENT NO.	DOCU	MENT CONTENT	REVISION
INSTALLATION DOCUMENTS FABRICATION DOCUMENTS 78620 78630 78631	Clamp Assembly Low Beam Fabricat High Beam Fabricat		0 0 1
ENGINEERING DOCUMENTS ER764.01 TR764.02 FTP764.03	Engineering Report Load Test Plan/Rep Flight Test Plan/Rep	port	0 0 0
APPROVAL ITANSport Canada	ORIGINAL DATE: 06 March 2008 REVISION DATE: 05 March 2009	AERO DESIGN 2013 – 39 th Ave NE, Calgary, All Ph. (403) 250-802' Fax. (403) 250-833	oerta, T2E 6R7 7
SHO8-16	SHEET 1 OF 1	Eurocopter AS350 & A Basket Installation F Assembly	
April 11, 2008	DC	L786-3	1 1

DOCUMENT NO.	DOCU	MENT CONTENT	REVISION
INSTALLATION DOCUMENTS			
77601	Quick Release Cargo Basket Installation		1
ICA764.90	Instructions for Cor	ntinued Airworthiness	0
FMS764.91	Flight Manual Supp	lement	1
FABRICATION DOCUMENTS			
DCL776-3	Document Control	List - Basket Assembly	0
ENGINEERING DOCUMENTS			
APPROVAL	ORIGINAL DATE: 06 March 2008 REVISION DATE: 05 March 2009	AERO DESIGN 2013 – 39 th Ave NE, Calgary, Ph. (403) 250-8 Fax. (403) 250-8	Alberta, T2E 6R7 027
SHICE-VIE	SHEET 1 OF 1	Eurocopter AS350 & Quick Release Ca Installatio	AS355 Series rgo Basket
SHICE-16 April 11,2008 April 11,2008	DC	L776-1	Rev.

DOCUMENT NO.	DOCU	MENT CONTENT	REVISION
INSTALLATION DOCUMENTS			
77602	Quick Release Cargo Basket Installation		1
ICA764.90	Instructions for Con	tinued Airworthiness	0
FMS764.91	Flight Manual Supp	lement	1
FABRICATION DOCUMENTS			
DCL776-3	Document Control L	ist - Basket Assembly	0
ENGINEERING DOCUMENTS			
APPROVAL:	ORIGINAL DATE: 06 March 2008 REVISION DATE: 05 March 2009	AERO DESIG 2013 – 39 th Ave NE, Calgary, Ph. (403) 250-80 Fax. (403) 250-8	Alberta, T2E 6R7 027
April 11, Zea	SHEET 1 OF 1	Eurocopter AS350 & AS355 Ser Quick Release Cargo Basket Installation	
April 11,2008.	DC	L776-2	Rev.

DOCUMENT NO.	DOCU	MENT CONTENT	REVISION
INSTALLATION DOCUMENTS 77610 77611 77612 76421 76422 77627 77628 69823 49215 49216 36255 36261 36262 36271 36272 36273 36274 36275 36278 36280	Basket Assembly Basket Body Assembly Lid Assembly Hoop Hoop Assembly Placard Placard Lug Spacer Spacer Handle Assembly Handle Bar Assembly Handle Bracket Assembly Handle Lever Basket Bracket Lid Bracket Bushing Bushing Handle Bar Spring Brace Assembly		0 0 0 0 0 0 1 0 0 1 4 1 1 1 1 2 0 2 2
ENGINEERING DOCUMENTS ER764.01 TP764.02 FTP764.03	Engineering Report Test Plan/Report Flight Test Plan/F		0 0 0
APPROVAL: Transport Transports Canada AIRCRAFT CERTIFICATION DIVISION	ORIGINAL DATE: 06 March 2008 REVISION DATE:	AERO DESIGI 2013 – 39 th Ave NE, Calgary, A Ph. (403) 250-802 Fax. (403) 250-833	berta, T2E 6R7
APPROVED By 1-5. Cluster Appril No. SHOB-16	SHEET 1 OF 1	Eurocopter AS350 & A Quick Release Carg Basket Assen	jo Basket
Appr'l Date <u>08-04-11</u> Issue No/ Issue Date <u>08-04-11</u> YY-MM-DD	DC	L776-3	O

DOCUMENT NO.	DOCU	MENT CONTENT	REVISION
INSTALLATION DOCUMENTS			
76401	Quick Release Cargo Basket Installation		1
ICA764.90	Instructions for Con	tinued Airworthiness	0
FMS764.91	Flight Manual Supp	lement	1
FABRICATION DOCUMENTS			
DCL764-3	Document Control I	List - Basket Assembly	1
ENGINEERING DOCUMENTS			
APPROVAL:	ORIGINAL DATE: 06 March 2008 REVISION DATE: 05 March 2009	AERO DESIG 2013 – 39 th Ave NE, Calgary, A Ph. (403) 250-80 Fax. (403) 250-80	Alberta, T2E 6R7 927
AJBY SHOR 16	SHEET 1 OF 1	Eurocopter AS350 & AS355 Sei Quick Release Cargo Baske Installation	
SHOR-16 April 11, 2008	DC	L764-1	Rev.

DOCUMENT NO.	DOCU	MENT CONTENT	REVISION
INSTALLATION DOCUMENTS FABRICATION DOCUMENTS 76410 76411 69812 76421 76422 76423 76427 69823 69824 49212 49213 49215 49216 36255 36261 36262 36271 36272 36273 36274 36275 36277 36278 36278 36280	Basket Assembly Basket Body Assembly Lid Assembly Hoop Hoop Assembly Placard Lug Rim Rim Lid Brace Spacer Spacer Handle Assembly Handle Bar Assembly Handle Bracket Assembly Handle Lever Basket Bracket Lid Bracket Bushing Bushing Handle Bar Spring Brace Assembly		1 1 1 0 0 1 0 1 0 0 1 0 0 1 1 1 1 1 1 1
ENGINEERING DOCUMENTS ER764.01 TP764.02 FTP764.03	Engineering Report Test Plan/Report Flight Test Plan/Re		0 0 0
APPROVAL:	ORIGINAL DATE: 06 March 2008 REVISION DATE: 05 March 2009	AERO DES 2013 – 39 th Ave NE, Calga Ph. (403) 25 Fax. (403) 25	ry, Alberta, T2E 6R7 0-8027
SHICE-IN	SHEET 1 OF 1 Eurocopter AS350 & Quick Release Ca		argo Basket
April 11, 2008	DC	L764-3	Rev.

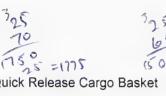
DOCUMENT NO.	DOCL	MENT CONTENT	REVISION
INSTALLATION DOCUMENTS			
78401	Quick Release Cargo Basket Installation		1
ICA764.90	Instructions for Cor	ntinued Airworthiness	0
FMS764.91	Flight Manual Supp	lement	1
FABRICATION DOCUMENTS			
DCL784-3	Document Control List - Basket Assembly		1
ENGINEERING DOCUMENTS			
APPROVAL	ORIGINAL DATE: 06 March 2008 REVISION DATE: 05 March 2009	AERO DESIO 2013 – 39 th Ave NE, Calgary Ph. (403) 250-4 Fax. (403) 250-	, Alberta, T2E 6R7 3027
SHOB-VE April 11, 2008	SHEET 1 OF 1	Eurocopter AS350 & AS355 Se Quick Release Cargo Baske Installation	
April 11, 2008	DC	L784-1	Rev.

DOCUMENT NO.	DOCU	MENT CONTENT	REVISION
INSTALLATION DOCUMENTS			
78402	Quick Release Cargo Basket Installation		1
ICA764.90	Instructions for Cor	itinued Airworthiness	0
FMS764.91	Flight Manual Supp	lement	1
FABRICATION DOCUMENTS			
DCL784-3	Document Control I	List - Basket Assembly	1
ENGINEERING DOCUMENTS			
APPROVAL:	ORIGINAL DATE:	AERO DESIG	NITO
The second secon	06 March 2008	2013 – 39 th Ave NE, Calgary, A	Alberta, T2E 6R7
1 C	REVISION DATE: 05 March 2009	Ph. (403) 250-80 Fax. (403) 250-8	
MAPSREVED		Eurocopter AS350 &	AS355 Series
APPLING SALOR	SHEET 1 OF 1	Quick Release Car Installatio	
Appril No. SALOR-JIG April 11, 2008			Rev.
138U-1 NO	DC	L784-2	4
April 11, 2008	DC	L/04-Z	
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DOCUMENT NO.	DOCU	MENT CONTENT	REVISION
INSTALLATION DOCUMENTS FABRICATION DOCUMENTS 78410 78411 78412 76421 76422 76423 78427 78428 69823 49215 49216 36255 36261 36262 36271 36272 36273 36274 36275 36277 36278 36278 36280	Basket Assembly Basket Body Assembly Lid Assembly Hoop Hoop Assembly Hoop Assembly Placard Placard Lug Spacer Spacer Handle Assembly Handle Bar Assembly Handle Bracket Assembly Handle Lever Basket Bracket Lid Bracket Bushing Bushing Handle Bar Spring Brace Assembly		0 1 0 0 1 0 0 1 1 1 1 1 1 2 0 2 2
ENGINEERING DOCUMENTS ER764.01 TP764.02 FTP764.03	Engineering Report Test Plan/Report Flight Test Plan/F		0 0 0
APPROVAL:	ORIGINAL DATE: 06 March 2008 REVISION DATE: 05 March 2009	AERO DESIGI 2013 – 39 th Ave NE, Calgary, Al Ph. (403) 250-802 Fax. (403) 250-833	berta, T2E 6R7 7
SHOE- 16			o Basket
April 11, 2008			Rev.

DOCUMENT NO.	DOCU	MENT CONTENT	REVISION
INSTALLATION DOCUMENTS			
78601	Basket Installation I	0	
ICA764.90	Instructions for Con	tinued Airworthiness	0
FABRICATION DOCUMENTS			
DCL786-3	Document Control L	ist - Provision Assembly	0
ENGINEERING DOCUMENTS			
APPROVAL:	ORIGINAL DATE:	4770	
Transport Transports Canada Cenada	06 March 2008	AERO DESIGN 2013 – 39 th Ave NE, Calgary, Al	
AIRCRAFT CERTIFICATION	REVISION DATE:	Ph. (403) 250-802 Fax. (403) 250-833	7
DIVISION		Eurocopter AS350 & A	S355 Sorios
APPROVED By D.S. Aluston	SHEET 1 OF 1	Basket Provis	
Appril No. SHOB-16	0.000	Installation	
Appr'l Date 08-04-//		F	Rev.
Issue Date 08 - 04-11	DC	L786-1	0
YY - MM - DD			

DOCUMENT NO.	DOCU	MENT CONTENT	REVISION
INSTALLATION DOCUMENTS FABRICATION DOCUMENTS 78620 78630 78631	Clamp Assembly Low Beam Fabricat High Beam Fabricat		0 0 0
ENGINEERING DOCUMENTS ER764.01 TR764.02 FTP764.03	Engineering Report Load Test Plan/Rep Flight Test Plan/Rep	oort oort	0 0 0
APPROVAL: Transport Transports Canada AIRCRAFT CERTIFICATION DIVISION	ORIGINAL DATE: 06 March 2008 REVISION DATE:	AERO DESIG 2013 – 39 th Ave NE, Calgary, A Ph. (403) 250-80 Fax. (403) 250-80	Alberta, T2E 6R7 27
APPROVED By D. 5 Cluster Appril No. SHO8-16	SHEET 1 OF 1	Eurocopter AS350 & A Basket Installation Assembly	Provision
Appril Date 08-04-11 Issue No. 1 Issue Date 08-04-11 YY-MM-DD	DC	L786-3	Rev.





Quick Release Cargo Basket

W_{basket} := 40·lbf $W_{cargo} := 200 \cdot lbf$ Weight of short basket configuration -77602 (61.25" long)

Weight of cargo (max)

 $P_{basket} := W_{basket} + W_{cargo}$

 $P_{basket} = 240 \, lbf$

Combined weight of basket and cargo

 $P_{lim\ man} := P_{basket} \cdot n_{man}$

 $P_{lim\ man} = 840 \, lbf$

Limit maneuvering load

Pult man := Pbasket nman ult

 $P_{ult\ man} = 1260 \, lbf$

Ultimate maneuvering load

no pennanent deformation or find bean / slight on aft

 $P_{lim_cargo_neg} := W_{cargo} \cdot n_{man_neg}$

 $P_{lim_cargo_neg} = -200 lbf$

Limit negative maneuvering load due to cargo

Pult cargo neg := Wcargo nman neg u

 $P_{ult\ cargo\ neg} = -300 \, lbf$

Ultimate negative maneuvering load due to cargo

Wbasket := 40·lbf

Wcargo:= 300·lbf

Weight of short basket configuration -77602 (61.25" long)

Weight of cargo (max)

Phasket := Wbasket + Wcargo

 $P_{basket} = 340 \, lbf$

Combined weight of basket and cargo

Plinaman = Pbasket nman

 $P_{lim\ man} = 1190 \, lbf$

Limit maneuvering load

Pult man = Pbasket nman_ult

 $P_{ult_man} = 1785 \, lbf$

1775 lead

Ultimate maneuvering load

Plim_cargo_neg := Wcargo nman_neg

 $P_{lim_cargo_neg} = -300 lbf$

Limit negative maneuvering load due to cargo

fud beam slight permant def.

Pult cargo neg := Wcargo nman_neg_u

 $P_{ult_cargo_neg} = -450 \, lbf$

Ultimate negative maneuvering load due to cargo

aft bean ~ 1/8" def.

1 lad Front Rear 303/4 _ clamps Shifted 30 29/12 - 1250 15.

29 287/8 - 1775 13.

DRAG LOAD ON BASKET

$$\rho := 0.002378 \cdot \frac{\text{slug}}{\text{ft}^3}$$

Density of air at Sea Level.

 $V_{ne} := 155 \cdot knots$

Never-Exceed-Speed of AS350B3. (Ref. AS350 TCDS)

(Highest of AS350/AS355 Series)

 $V_d := \frac{V_{ne}}{0.9}$

Design Dive Speed of AS350B3

l_{basket} := 61.25·in

 $V_d = 172 \text{ knots}$

Length of basket.

 $w_{basket} := 22.5 \cdot in$

Width of basket

h_{basket} := 19.25·in

Height of basket.

$$A_f := 362 \cdot in^2$$

Frontal Area of basket.

 $A_p := l_{basket} \cdot w_{basket}$

$$A_0 = 1378 \, \text{in}^2$$

Planar Area of basket.

 $\frac{l_{basket}}{w_{basket}} = 2.7$

Fineness ratio of basket

 $C_{Do} := 1.1$

Drag Coefficient of Basket, (overestimated) (Ref. Hoerner, Fluid Dynamic Drag, Figure 22).

 $P_{drag} := \frac{\rho}{2} \cdot V_d^2 \cdot A_f C_{Do}$

 $P_{drag} = 278 \, lbf$

Limit Drag on basket.

 $P_{drag_ult} := P_{drag} \cdot n_{sf}$

 $P_{drag\ ult} = 417 \, lbf$

Ultimate Drag load on basket

 $AC_{drag} := 48.4 \cdot in$

Lateral Aerodynamic Center of basket. (Low configuration, furthest outboard)

Quick Release Cargo Basket

W _{basket} :=	45·lbf
W _{cargo} :=	200·lbf

Weight of medium basket configuration -76401 (75.75" long)

$$P_{basket} = 245 lbf$$

Combined weight of basket and cargo

sco su bays

 $P_{lim_man} := P_{basket} \cdot n_{man}$

$$P_{lim\ man} = 858 \, lbf$$

Limit maneuvering load



 $P_{ult_man} := P_{basket} \cdot n_{man_ult}$

$$P_{ult_man} = 1286\,lbf$$

Ultimate maneuvering load

Wbasket := 45·lbf

Wcargo := 210·lbf

Weight of medium basket configuration -76401 (75.75" long)

Weight of cargo (max)

Phasket = Wbasket + Wcargo

$$P_{basket} = 255 \, lbf$$

Combined weight of basket and cargo

875 15 35 bays Pinaman:= Pbasket nman

 $P_{lim\ man} = 893 \, lbf$

Limit maneuvering load



132515 53 bags. Pultaman = Pbasket nman_ult

 $P_{ult_man} = 1339 \, lbf$

Ultimate maneuvering load 🗸

Whasket := 45-lbf

Wcargo = 220·lbf

Weight of medium basket configuration -76401 (75.75" long)

Weight of cargo (max)

Phasket := Wbasket + Wcargo

 $P_{basket} = 265 \, lbf$

Combined weight of basket and cargo

900 16.

Plimman:= Pbasket nman

 $P_{lim\ man} = 928 \, lbf$

Limit maneuvering load

V + 300 drag

1375 lb.

Pultaman = Pbasket nman_ult

 $P_{ult_man} = 1391 \, lbf$

Ultimate maneuvering load

after 30F 29 5/16 R

,		
	Whasket = 45·lbf Wearen = 230·lbf	Weight of medium basket configuration -76401 (75.75" long) Weight of cargo (max)
	Phasket = W _{basket} + W _{cargo} P _{basket} = 275 lbf	Combined weight of basket and cargo
950 lb 38 bays	$P_{lim_man} := P_{basket} \cdot n_{man}$ $P_{lim_man} = 963 \text{ lbf}$	Limit maneuvering load / +320 drag
(425 15 57 bags	Pultaman = $P_{basket} \cdot n_{man_ult}$ $P_{ult_man} = 1444 lbf$	Ultimate maneuvering load
	Whasket = 45·lbf Wearen = 240·lbf	Weight of medium basket configuration -76401 (75.75" long) Weight of cargo (max)
	Phasket := $W_{basket} + W_{cargo}$ $P_{basket} = 285 lbf$	Combined weight of basket and cargo
975 16 39 bags	Plinaman:= Pbasket nman $P_{lim_man} = 998 \ lbf$	Limit maneuvering load 1 320 drag
65 bags	Pult_man = $P_{basket} \cdot n_{man_ult}$ $P_{ult_man} = 1496 lbf$	Ultimate maneuvering load
	Wbasket = 45·lbf Wester = 250·lbf	Weight of medium basket configuration -76401 (75.75" long) Weight of cargo (max)
	Phasket = $W_{basket} + W_{cargo}$ $P_{basket} = 295 \text{ lbf}$	Combined weight of basket and cargo
1000 lb	$P_{lim_man} := P_{basket} \cdot n_{man}$ $P_{lim_man} = 1033 lbf$	Limit maneuvering load V + 320 drag,
1525 lb 61 bays	$P_{ult_man} = P_{basket} \cdot n_{man_ult}$ $P_{ult_man} = 1549 lbf$	Ultimate maneuvering load
efter	30F 295/16 R	after 295/162 30 F

•

· Long

AS350 Series and AS355 Series, FAR 27:

FAR 27.561(b)(3)

Ultimate Upward Emergency Landing Load Factor: $n_{e up} := 1.5$

Ultimate Forward Emergency Landing Load Factor: $n_{e \text{ fwd}} := 4.0$

Ultimate Sideward Emergency Landing Load Factor: $n_{e \text{ side}} := 2.0$

Ultimate Downward Emergency Landing Load Factor: $n_{e \ down} := 4.0$

FAR 27.625 Fitting Factor (does not apply to articles being tested): $n_{\text{ff}} := 1.15$

FAR 27.303 Safety Factor: $n_{sf} := 1.5$

FAR 27.337(a) Limit Positive Maneuvering Load Factor: $n_{man} := 3.5$

 $n_{man_ult} := n_{man} \cdot n_{sf}$ Ultimate Positive Maneuvering Load Factor: $n_{man_ult} = 5.25$

Limit Negative Maneuvering Load Factor: $n_{man neg} := -1.0$

 $n_{man_neg_u} := n_{man_neg_v} \cdot n_{sf}$ Ultimate Negative Maneuvering Load Factor: $n_{man_neg_u} = -1.5$

CRITICAL ULTIMATE LOAD FACTORS:

Downward: Ultimate Positive Maneuvering Load Factor: $n_{man_ult} = 5.25$

Forward: Ultimate Forward Emergency Landing Load Factor: $n_{e \text{ fwd}} = 4$

Sideward: Ultimate Sideward Emergency Landing Load Factor: $n_{e \text{ side}} = 2$

Upward: Ultimate Upward Emergency Landing Load Factor: $n_{e up} = 1.5$

Note: The basket is mounted below and to one side of the cabin. Forward deflection or failure in the emergency landing condition does not endanger the occupants. Likewise, Sideward and Upward deflection or failure of the basket in the emergency landing condition do not endanger the occupants.

Sideward and Upward Load Factors are used in the tests to ensure that the lid of the basket does not open in flight.

0 load 30 3/4 F 30 1/16 12

after 950 30 3/4 F 29 15/16 R w/scale hanging

after 1600 30 1/4 F 29 1/8

Quick Release Cargo Basket

337		CO 11. C
Whasket	:=	00-IDI

Weight of largest basket configuration -78402 (97" long)

$$W_{cargo} := 200 \cdot lbf$$

Weight of cargo (max)

$$P_{basket} := W_{basket} + W_{cargo}$$

$$P_{basket} = 260 \, lbf$$

Combined weight of basket and cargo

900 36 bays $P_{lim\ man} := P_{basket} \cdot n_{man}$

$$P_{lim_man} = 910 \, lbf$$

Limit maneuvering load

1350 54 bays $P_{ult_man} := P_{basket} \cdot n_{man_ult}$

$$P_{ult\ man} = 1365 \, lbf$$

Ultimate maneuvering load

 $P_{lim_cargo_neg} := W_{cargo} \cdot n_{man_neg}$

$$P_{lim_cargo_neg} = -200 lbf$$

Limit negative maneuvering load due to cargo

 $P_{ult_cargo_neg} := W_{cargo} \cdot n_{man_neg_u}$

$$P_{ult_cargo_neg} = -300 \, lbf$$

Ultimate negative maneuvering load due to cargo

Wcargo = 210-lbf

Weight of cargo (max)

Phasket:= Wbasket + Wcargo

$$P_{basket} = 270 \, lbf$$

Combined weight of basket and cargo

925 37 bags Plimman:= Pbasket nman

$$P_{lim_man} = 945 lbf$$

Limit maneuvering load

1400 56 bags Pultaman = Pbasket nman_ult

$$P_{ult_man} = 1418\,lbf$$

Ultimate maneuvering load

Wcarso = 220·lbf

Weight of cargo (max)

 $\begin{array}{l} P_{basket} = W_{basket} + W_{cargo} \end{array}$

$$P_{basket} = 280 \, lbf$$

Combined weight of basket and cargo

950 38 bays

58 bags

Plim man := Pbasket nman

$$P_{lim_man} = 980 \, lbf$$

Limit maneuvering load

V + 300 drag.

1450

Pultaman = Pbasket nman_ult

$$P_{ult_man} = 1470 \, lbf$$

Ultimate maneuvering load

`	Wycareon:= 230·lbf	Weight of cargo (max)
	Phasket = $W_{basket} + W_{cargo}$ $P_{basket} = 290 \text{ lbf}$	Combined weight of basket and cargo
1000 40 bags	$P_{lim_man} := P_{basket} \cdot n_{man}$ $P_{lim_man} = 1015 lbf$	Limit maneuvering load \(\square + 2\forag\)
60 bags	$P_{ult_man} := P_{basket} \cdot n_{man_ult}$ $P_{ult_man} = 1523 \text{ lbf}$	Ultimate maneuvering load
	Wranga = 240·lbf	Weight of cargo (max)
	Phasket = $W_{basket} + W_{cargo}$ $P_{basket} = 300 \text{ lbf}$	Combined weight of basket and cargo
1025 41 bags	$P_{lim_man} := P_{basket} \cdot n_{man}$ $P_{lim_man} = 1050 lbf$	Limit maneuvering load / 1280 drag
1550 62 bags	$P_{ult_man} := P_{basket} \cdot n_{man_ult}$ $P_{ult_man} = 1575 lbf$	Ultimate maneuvering load
	Wcarage:= 250·lbf	Weight of cargo (max)
	Phasket: $W_{basket} + W_{cargo}$ $P_{basket} = 310 lbf$	Combined weight of basket and cargo
(075 43 bags	$P_{lim_man} := P_{basket} \cdot n_{man}$ $P_{lim_man} = 1085 lbf$	Limit maneuvering load V + 290 drag
1600 64 bays	$P_{ult_man} = P_{basket} \cdot n_{man_ult}$ $P_{ult_man} = 1628 lbf$	Ultimate maneuvering load

DRAG LOAD ON BASKET

ρ	:=	0.002378	slug
			11

Density of air at Sea Level.

$$V_{ne} := 155 \cdot knots$$

Never-Exceed-Speed of AS350B3.

(Ref. AS350 TCDS)

$$V_d := \frac{V_{ne}}{0.9}$$

(Highest of AS350/AS355 Series)

$$V_{\rm d} := \frac{100}{0.9}$$

Design Dive Speed of AS350B3

$$l_{basket} := 97 \cdot in$$

 $V_d = 172 \text{ knots}$

Length of basket.

$$w_{basket} := 22.5 \cdot in$$

Width of basket

$$h_{basket} := 19.25 \cdot in$$

Height of basket.

$$A_f := 376 \cdot in^2$$

Frontal Area of basket.

$$A_p := l_{basket} \cdot w_{basket}$$

$$A_0 = 2183 \text{ in}^2$$

Planar Area of basket.

$$\frac{l_{basket}}{w_{basket}} = 4.3$$

Fineness ratio of basket

 $C_{Do} := 1.1$

Drag Coefficient of Basket, (overestimated) (Ref. Hoerner, Fluid Dynamic Drag, Figure 22).

$$P_{drag} \coloneqq \frac{\rho}{2} \!\cdot\! V_d^{\ 2} \!\cdot\! A_f \, C_{Do}$$

$$P_{drag} = 289 \, lbf$$

Limit Drag on basket.

$$P_{drag_ult} := \ P_{drag} {\cdot} n_{sf}$$

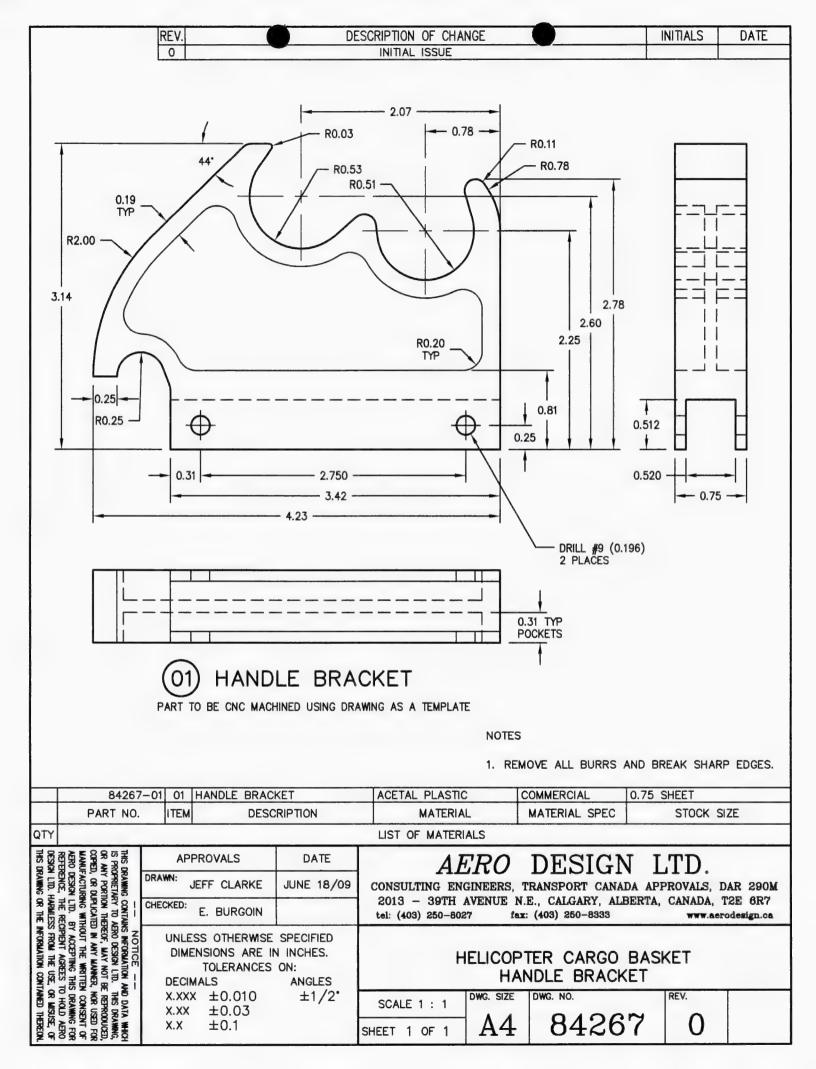
$$P_{drag_ult} = 433 lbf$$

Ultimate Drag load on basket

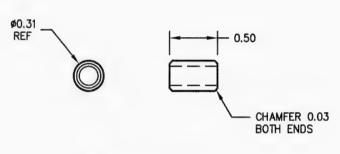
$$AC_{drag} := 48.4 \cdot in$$

Lateral Aerodynamic Center of basket.

(Low configuration)



REV	DESCRIPTION OF CHANGE	INITIALS	DATE
0	INITIAL ISSUE		

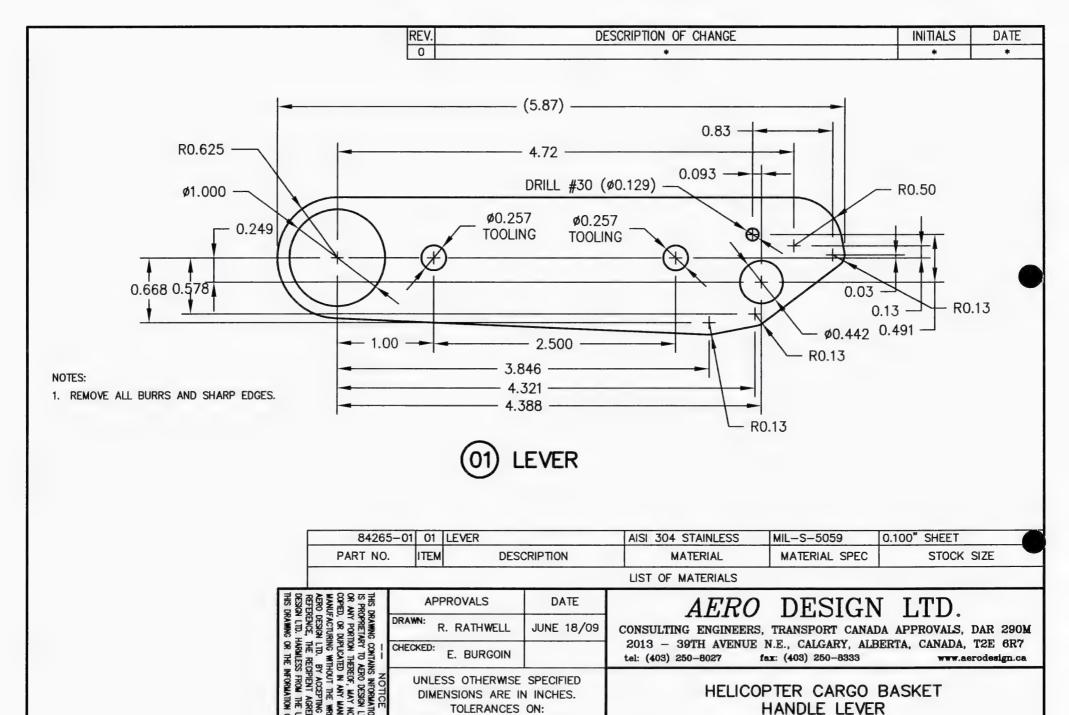


01) BUSHING

NOTES

1. REMOVE ALL BURRS AND BREAK SHARP EDGES.

84272-01 01 BUSHING			4130 STEEL, CO	DND. N	MIL-T-6736	0.313 X 0.	.058 RND	. TUBE			
	PART NO.		ITEM	DESC	RIPTION	MATERIA	\L	MATERIAL SPEC	ST	OCK SIZE	Ξ
QTY	Y					LIST OF MATER	IALS				
DESIGN DESIGN	THIS DIS PRODUCTION AND ADDRESS AND ADDRES		APF	PROVALS	DATE	Al	RO	DESIGN	J I.TI	D	
RANNIG H	DRAWN: JEFF CLARKE 03 NOV 2009			CONSULTING EN	GINEERS,	TRANSPORT CANA	DA APPROV	ALS, DA			
ARMLES OR THE	CONTAIN CONTAI	CHEC	KED:	E. BURGOIN		2013 - 39TH tel: (403) 250-803		N.E., CALGARY, ALI ax: (403) 250-8333		ADA, T2	
MITHOUT THE WRITTEN D. BY ACCEPTING THIS RECIPIENT ACCESS T MLESS FROM THE USE, THE INFORMATION CONTIN	NOTICE —— IS INFORMATION ALERO DESIGN LTD. ERRO DESIGN LTD. REOF, MAY NOT BI OIN ANY MANNER, OUT THE WRITTEN Y ACCEPTING THIS SIPPINT ACREES I		DIME	SS OTHERWISE INSIONS ARE II TOLERANCES IALS	N INCHES.	H	HELICO	PTER CARGO BUSHING	BASKET	•	
OR MISUSE, O	AD DATA WHICE THIS DRAWING E REPRODUCED NOR USED FO I CONSENT OF S DRAWING FO TO HOLD AFRO TO HO)	X.XXX X.XX X.X		±1/2°	SCALE 1 : 1 SHEET 1 OF 1	DWG. SIZE	DWG. NO. 8427	2	0	



ANGLES ±1/2°

DWG. SIZE

Α4

SCALE 1:1

SHEET 1 OF 1

DWG. NO.

84265

REV.

0

DECIMALS

X.XX

X.X

 $x.xxx \pm 0.010$

±0.03

±0.1

REV.	DESCRIPTION OF CHANGE	INITIALS	DATE
0	INITIAL ISSUE		
1	INCREASE LOAD TO 250 LBS / 113 KG, ADD LEFT PLACARD (02)	BJC	JAN 27/10

DRILL #30 (0.129) 4 PLACES

NOTES

- 1. ENGRAVE 0.007 DEEP AS FOLLOWS: "QUICK RELEASE BASKET" - 0.125 HIGH
 - "EUROCOPTER AS350 & AS355 SERIES" 0.080 HIGH

 - "S/N 76401-XX" 0.080 HIGH
 - "MAXIMUM PERMISSIBLE LOAD" 0.125 HIGH
 - "250 LBS/113 KG" 0.200 HIGH
 - "AERO DESIGN LTD." 0.125 HIGH
 - "CALGARY, ALBERTA, CANADA" 0.080 HIGH
 - "403-250-8027" 0.080 HIGH
- 2. ON 76427-02: S/N IS 76402-XX.



01) PLACARD **PLACARD**

76427-02	02	PLACARD	6061-T6 ALUMINUM	QQ-A-250/11	0.063 SHEET
76427-01	01	PLACARD	6061-T6 ALUMINUM	QQ-A-250/11	0.063 SHEET
PART NO.	TEM	DESCRIPTION	MATERIAL	MATERIAL SPEC	STOCK SIZE

LIST OF MATERIALS

THIS DIS PROCESSION ALPRO DESIGNATION THIS DESIGNATION THE PROCESSION THE PROCESSION THIS DESIGNATION THE PROCESSION THIS DESIGNATION THE PROCESSION THIS DESIGNATION THE PROCESSION THIS DESIGNATION THE PROCESSION THE	APPROVALS	DATE	AERO DESIGN LTD.	
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CONTAIL Y TO A Y TO A Y TO A THE RES OR THE	CHECKED: E. BURGOIN		2013 — 39TH AVENUE N.E., CALGARY, ALBERTA, CANADA, T2E 6R7 tel: (403) 250-8027 fax: (403) 250-8333 www.aerodesign.ca	- 1
NOTICE —— NOTICE —— S MFORMATION AN S NFORMATION AND SEGO ESSAY LTD. EGO ESSAY LTD. EGO HAY NOT BE D IN ANY MANNER, NOUT THE WRITTEN Y ACCEPTING THIS SIPPLINT AGREES TO S FROM THE USE. O NFORMATION CONTI	UNLESS OTHERWISE DIMENSIONS ARE IN TOLERANCES DECIMALS	N INCHES. ON: ANGLES	EUROCOPTER AS350 & AS355 SERIES QUICK RELEASE CARGO BASKET PLACARD	
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REV.	DESCRIPTION OF CHANGE	INITIALS	DATE
0	INITIAL ISSUE		
1	INCREASE LOAD TO 250 LBS / 113 KG	BJC	JAN 27/10

DRILL #30 (0.129) -4 PLACES

78427-01 01 PLACARD

NOTES

1. ENGRAVE 0.007 DEEP AS FOLLOWS:
"QUICK RELEASE BASKET" — 0.125 HIGH
"EUROCOPTER AS350 & AS355 SERIES" — 0.080 HIGH
"S/N 78401—XX" — 0.080 HIGH
"MAXIMUM PERMISSIBLE LOAD" — 0.125 HIGH
"250 LBS/113 KG" — 0.200 HIGH
"AERO DESIGN LTD." — 0.125 HIGH
"CALGARY, ALBERTA, CANADA" — 0.080 HIGH
"403—250—8027" — 0.080 HIGH



QQ-A-250/11

0.063 SHEET

(01) PLACARD

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6061-T6 ALUMINUM

Jeff Clarke

From: Jeff Clarke [jeff@aerodesign.ca]

Sent: February 2, 2010 11:54 AM

To: 'Staal, Jack'

Subject: C-10-0102 - AS350 Cargo Baskets

Jack,

Attached are the documents that require stamps for this revision: DCLs and FMS. The remainder of the documents will be uploaded into NDWL.

This revision changes the approval as follows:

1) Alternate short and long configurations are removed (Configuration C and F on the STC).

- A mid height configuration is added (between the existing low and high configurations). This
 tucks the basket right under the cargo extenders (squirrel cheeks) while still being able to open
 the lid.
- 3) Optional lighter wall thickness for the beams, see ER764.04.
- 4) The cargo load in the medium and long baskets is increased to 250 lbs., see ER764.04. The short basket is already approved for 300 lbs cargo.
- 5) The handle configuration is changed.
- 6) Optional peg step welded to the mid and high beams.

On this issue of the STC the dates for the DCLs are all 01 February 2010, the ICA is 22 December 2009, and the FMS is 29 January 2010. There is a typo on the certificate – the FMS and ICA should be FMS764.91 and ICA764.90 (there is a "–" instead of "." on the certificate)

Please let me know if you have any questions.

Regards,

Jeff Clarke, CET

AERO Design Ltd. 2013 39th Avneue NE Calgary, Alberta, Canada T2E 6R7

Phone: 403.250.8027 Fax: 403.250.8333

Jeff Clarke

From: Jeff Clarke [jeff@aerodesign.ca]

Sent: February 2, 2010 3:03 PM

To: 'Staal, Jack'

Subject: C-10-0102 - AS350 Cargo Baskets

Jack,

I have uploaded the drawings, signed AE-100s, ICA, and Engineering Report into NDWL. I put the Engineering Report in the wrong section (AE-100).

Please let me know if you have any questions.

Regards,

Jeff Clarke

AERO Design Ltd.

DOCUMENT NO.	DOCL	IMENT CONTENT	REVISION	
INSTALLATION DOCUMENTS				
76401	Quick Release Car	go Basket Installation	2	
ICA764.90	Instructions for Cor	2		
FMS764.91	Flight Manual Supp	Flight Manual Supplement		
FABRICATION DOCUMENTS				
DCL764-3	Document Control	List - Basket Assembly	2	
ENGINEERING DOCUMENTS				
APPROVAL:	ORIGINAL DATE: 06 March 2008 REVISION DATE: 01 February 2010	AERO DESIG 2013 – 39 th Ave NE, Calgary, A Ph. (403) 250-80 Fax. (403) 250-83	alberta, T2E 6R7 27	
	SHEET 1 OF 1	Eurocopter AS350 & AS355 Serie Quick Release Cargo Basket Installation		
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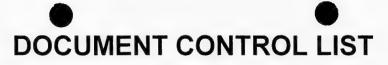
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76410	Basket Assembly		2	1	V
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76422	Hoop Assembly		0		
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76427	Placard		1	1	
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49212	Rim Rim		0	ľ	
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49216	Spacer		0		
84255	Handle Assembly		0	1/	
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84265	Handle Lever	oombiy	ő	V	
84267	Handle Bracket		0	1	
84272	Bushing		0	/	1211
36273	Lid Bracket		1		
36274	Bushing		2		1
36275	Bushing		3		
36277	Handle Bar		0		
36278	Spring		2		
36280	Brace Assembly		2		
ENGINEERING DOCUMENTS					
ER764.01	Engineering Report		0		
TP764.02 FTP764.03	Test Plan/Report Flight Test Plan/Re	and the second	0		
ER764.04	Engineering Report		0	1.7	. /
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	DC	L764-3	2		
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DOCUMENT NO.	DOCL	IMENT CONTENT	REVISION		
INSTALLATION DOCUMENTS					
77601	Quick Release Car	Quick Release Cargo Basket Installation			
ICA764.90	Instructions for Cor	2			
FMS764.91	Flight Manual Supp	1			
FABRICATION DOCUMENTS					
DCL776-3	Document Control	List - Basket Assembly	1		
ENGINEERING DOCUMENTS					
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	06 March 2008 REVISION DATE: 01 February 2010	2013 – 39 th Ave N E, Calgary, Ph. (403) 250-8 Fax. (403) 250-6	Alberta, T2E 6R7 3027		
	SHEET 1 OF 1	Eurocopter AS350 & AS355 Ser Quick Release Cargo Basker Installation			
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DOCUMENT NO.	DOCU	MENT CONTENT	REVISION
FABRICATION DOCUMENTS 77610 77611 77612 76421 76422 77627 69823 49215 49216 84255 84261 84262 84265 84267 84272 36273 36274 36275 36277 36278 36280	Basket Assembly Basket Body Assen Lid Assembly Hoop Hoop Assembly Placard Lug Spacer Spacer Handle Assembly Handle Bar Assembly Handle Bracket Assemble Handle Bracket Bushing Lid Bracket Bushing Bushing Handle Bar Spring Brace Assembly	1 1 1 0 0 0 0 1 0 0 0 0 0 0 0 0 0 1 2 3 0 2 2 2	
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DOCUMENT NO.	DOCU	MENT CONTENT	REVISION	
INSTALLATION DOCUMENTS				
78401	Quick Release Carg	go Basket Installation	2	
ICA764.90	Instructions for Con	2		
FMS764.91	Flight Manual Supp	Flight Manual Supplement		
FABRICATION DOCUMENTS				
DCL784-3	Document Control I	ist - Basket Assembly	2	
ENGINEERING DOCUMENTS				
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	SHEET 1 OF 1	Eurocopter AS350 & AS355 Series Quick Release Cargo Basket Basket Assembly		
	DCL784-3 2			



DOCUMENT NO.	DOCL	IMENT CONTENT	REVISION	
INSTALLATION DOCUMENTS				
78601	Attachment Provisi	3		
ICA764.90	Instructions for Continued Airworthiness		2	
FABRICATION DOCUMENTS				
DCL786-3	Document Control	List - Provision Assembly	2	
ENGINEERING DOCUMENTS				
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INSTALLATION DOCUMENTS FABRICATION DOCUMENTS 78620 78630 78631 78632	Clamp Assembly Low Beam Fabricat High Beam Fabricat Mid Beam Fabricati	2 2 3 1		
ENGINEERING DOCUMENTS ER764.01 TR764.02 FTP764.03 ER764.04	Engineering Report Load Test Plan/Rep Flight Test Plan/Re Engineering Report	port port	0 0 0 0	
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	SHEET 1 OF 1	Eurocopter AS350 & AS355 Series Basket Installation Provision Assembly		
	DCL786-3 2			

STATEMENT OF		OF AIRC	ISPORT RAFT OR AIRCRAFT ESS REQUIREMENTS	AE-100 No.: Initial Issue Date: Revision: Revision Date:	AE786-3 20 March, 2008 2 01 February 2010
Aircraft Mfr: Eurocopter Aircraft Model: AS350 & AS355 Series Registration: ALL ELIGIBLE			Model / Type Airplane	Approval No.: Delegation No.: Delegate Name: Company:	SH08-16 290M E. Burgoin AERO Design Ltd.
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Aircraft Model:	Eurocopter AS350 & AS ALL ELIGIBL		Model / Type Airplane Helicopter Appliance Component	Approval No.: Delegation No.: Delegate Name: Company:	SH08-16 290M E. Burgoin AERO Design Ltd.
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DEPARTMENT OF TRANSPORT STATEMENT OF COMPLIANCE OF AIRCRAFT OR AIRCRAFT COMPONENTS WITH THE AIRWORTHINESS REQUIREMENTS			RAFT OR AIRCRAFT	AE-100 No.: Initial Issue Date: Revision: Revision Date:	AE784-3 20 March, 2008 2 01 February 2010
Aircraft Model:	Eurocopter AS350 & AS3 ALL ELIGIBL		Model / Type Airplane Helicopter Appliance Component	Approval No.: Delegation No.: Delegate Name: Company:	SH08-16 290M E. Burgoin AERO Design Ltd.
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Aircraft Mfr: Aircraft Model: AS350 & AS355 Series ALL ELIGIBLE			Model / Type Airplane	Approval No.: Delegation No.: Delegate Name: Company:	SH08-16 290M E. Burgoin AERO Design Ltd.
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Aircraft Mfr;	Eurocopter		Model / Type	Approval No.:	SH08-16
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Aircraft Mfr: Eurocopter Aircraft Model: AS350 & AS355 Series Registration: ALL ELIGIBLE			Model / Type Airplane Helicopter Appliance Component	Approval No.: Delegation No.: Delegate Name: Company:	SH08-16 290M E. Burgoin AERO Design Ltd.
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AERO Design Ltd.

ENGINEERING REPORT ER764.04

EUROCOPTER AS350/AS355 SERIES

QUICK RELEASE MOUNTING PROVISIONS QUICK RELEASE CARGO BASKET

Prepared by: Jeff Clarke, CET

Approved by: E. Burgoin, P.Eng., DAR 290M

Revision 0, 22 January 2010

AERO Design Ltd. Engineering Consultants www.aerodesign.ca

2013 - 39th Avenue N.E., Calgary, Alberta T2E 6R7

Phone: (403) 250-8027 Fax: (403) 250-8333

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AERO Design Ltd.

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1.0 INTRODUCTION

In the interest of maintaining a competitive advantage in the cargo basket market, the cargo basket installation is re-tested to increase the cargo capacity of the basket. Initial testing was conservative in order to prevent damage to the test article. The capacity is to be increased to 250 lbs, from 200, in the medium and long baskets. The short basket is already approved for 300 lbs.

Additionally, a new configuration for the mounting beams using a lighter wall tube to reduce the overall weight of the installation is tested. All holes, keyways, etc. are the same, the wall thickness is reduced to 0.065" from 0.120". Inserts are welded around the keyways to maintain the thickness required for the fitting, and to maintain wear properties at the keyway.

2.0 REFERENCE TEXT

AERO Design Ltd. Engineering Report ER764.01, TR764.02 AERO Design Ltd. Drawing 78631, 77610, 76410, 78411

3.0 BASIS OF CERTIFICATION

AS350 Series and AS355 Series: H-83/H-87

FAR 27, Amendment 27-20, plus select sections of later Amendments (AS355NP basis of certification).

This installation:

FAR 27, Amendment 27-20, plus select sections of later Amendments (AS355NP basis of certification).

4.0 APPLICABILITY OF AIRWORTHINESS DIRECTIVES

Airworthiness Directives applicable to the Eurocopter AS350 and AS355 Series were reviewed, and none were found to affect this project.

5.0 LOADS

AS350 Series and AS355 Series, FAR 27:

FAR 27.561(b)(3)

Ultimate Upward Emergency Landing Load Factor: $n_{e up} := 1.5$

Ultimate Forward Emergency Landing Load Factor: $n_{e-fwd} := 4.0$

Ultimate Sideward Emergency Landing Load Factor: $n_{e, side} := 2.0$

Ultimate Downward Emergency Landing Load Factor: $n_{e,down} := 4.0$

FAR 27.625 Fitting Factor (does not apply to articles being tested): $n_{\rm ff} = 1.15$

FAR 27.303 Safety Factor: $n_{ef} := 1.5$

FAR 27.337(a)

Limit Positive Maneuvering Load Factor: $n_{man} := 3.5$

 $n_{man\ ult} := n_{man'} n_{sf}$ Ultimate Positive Maneuvering Load Factor: $n_{man\ ult} = 5.25$

Limit Negative Maneuvering Load Factor: $n_{man neg} := -1.0$

 $n_{man \ neg \ u} := n_{man \ neg \ u} = n_{man \ neg \ u} = -1.5$

CRITICAL ULTIMATE LOAD FACTORS:

Downward: Ultimate Positive Maneuvering Load Factor: $n_{man\ ult} = 5.25$

Forward: Ultimate Forward Emergency Landing Load Factor: $n_{e \text{ fwd}} = 4$

Sideward: Ultimate Sideward Emergency Landing Load Factor: $n_{e \text{ side}} = 2$

Upward: Ultimate Upward Emergency Landing Load Factor: $n_{e-up} = 1.5$

Note: The basket is mounted below and to one side of the cabin. Forward deflection or failure in the emergency landing condition does not endanger the occupants. Likewise, Sideward and Upward deflection or failure of the basket in the emergency landing condition do not endanger the occupants.

Sideward and Upward Load Factors are used in the tests to ensure that the lid of the basket does not open in flight.

5.1 Inertia Loads

Cargo loads are incremented by 10 lbs up to 250 lbs for the medium and long configurations.

5.1.1 Cargo Basket 77601 (Short Basket)

The inertia load for the short basket is highest, and will be used for testing of the light wall beams. The basket has already been demonstrated to carry 300 lbs cargo at ultimate load.

W_{basket} := 40·1bf Weight of short basket configuration

 $W_{cargo} := 300 \, lbf$ Weight of cargo (max)

 $P_{basket} := W_{basket} + W_{cargo}$

P_{basket} = 3401bf Combined weight of basket and cargo

 $P_{lim\ man} := P_{basket} \cdot n_{man}$

 $P_{lim\ man} = 1190lbf$ Limit maneuvering load

 $P_{ult_man} := P_{basket} \cdot n_{man_ult}$

 $P_{ult\ man} = 1785lbf$ Ultimate maneuvering load

5.1.2 Cargo Basket 76401 (Medium Basket)

W_{basket} := 45·lbf Weight of medium basket configuration

 $W_{cargo} := 200 \, lbf$ Weight of cargo (max)

 $P_{basket} := W_{basket} + W_{cargo}$

 $P_{basket} = 245lbf$ Combined weight of basket and cargo

 $P_{lim\ man} := P_{basket} \cdot n_{man}$

 $P_{lim\ man} = 858lbf$ Limit maneuvering load

Pult man := Pbasket nman ult

 $P_{ult\ man} = 1286lbf$ Ultimate maneuvering load

$W_{cargo} := 210 lbf$	eight of cargo (max)
-------------------------	----------------------

$$P_{basket} = 255lbf$$
 Combined weight of basket and cargo

$$P_{lim\ man} = 893 lbf$$
 Limit maneuvering load

$$P_{ult\ man} = 1339lbf$$
 Ultimate maneuvering load

$$P_{basket} = 265lbf$$
 Combined weight of basket and cargo

$$P_{lim_man} := P_{basket} \cdot n_{man}$$

$$P_{lim man} = 928lbf$$
 Limit maneuvering load

$$P_{ult_man} := P_{basket} \cdot n_{man\ ult}$$

$$P_{ult\ man} = 1391lbf$$
 Ultimate maneuvering load

$$P_{basket} := W_{basket} + W_{cargo}$$

$$P_{basket} = 2751bf$$
 Combined weight of basket and cargo

$$P_{lim_man} := P_{basket} \cdot n_{man}$$

$$P_{lim man} = 963lbf$$
 Limit maneuvering load

$$P_{ult_man} := P_{basket} \cdot n_{man_ult}$$

$$P_{ult\ man} = 1444 lbf$$
 Ultimate maneuvering load

$W_{cargo} := 240 lbf$	W	cargo	;=	240 lbf
-------------------------	---	-------	----	---------

Weight of cargo (max)

$$P_{basket} = 285lbf$$

Combined weight of basket and cargo

$$P_{lim_man} := P_{basket} \cdot n_{man}$$

$$P_{lim\ man} = 998lbf$$

Limit maneuvering load

$$P_{ult\ man} = 1496lbf$$

Ultimate maneuvering load

Weight of cargo (max)

$$P_{basket} := W_{basket} + W_{cargo}$$

$$P_{basket} = 295lbf$$

Combined weight of basket and cargo

$$P_{lim_man} := P_{basket} \cdot n_{man}$$

$$P_{lim\ man} = 1033lbf$$

Limit maneuvering load

$$P_{ult\ man} := P_{basket} \cdot n_{man\ ult}$$

$$P_{ult\ man} = 1549lbf$$

Ultimate maneuvering load

5.1.3 Cargo Basket 78401 (Long Basket)

 $W_{basket} := 60 \cdot lbf$

Weight of largest basket configuration

 $W_{cargo} := 200 \, lbf$

Weight of cargo (max)

$$P_{basket} = 260lbf$$

Combined weight of basket and cargo

$$P_{lim_man} := P_{basket} \cdot n_{man}$$

$$P_{lim\ man} = 910lbf$$

Limit maneuvering load

$$P_{ult_man} := P_{basket} n_{man\ ult}$$

$$P_{ult\ man} = 1365lbf$$

Ultimate maneuvering load

$W_{cargo} := 2101bf$	vveignt or cargo (max)	

$$P_{basket} := W_{basket} + W_{cargo}$$
 $P_{basket} = 270 lbf$ Combined weight of basket and cargo

$$P_{lim_man} := P_{basket} \cdot n_{man}$$
 $P_{lim_man} = 945 lbf$ Limit maneuvering load

 $P_{basket} = 270lbf$

 $W_{cargo} := 220 \, lbf$

$$\begin{aligned} &P_{ult_man} \coloneqq P_{basket} n_{man_ult} \\ &P_{ult_man} = 1418lbf \end{aligned} \qquad & \text{Ultimate maneuvering load}$$

$$P_{basket} := W_{basket} + W_{cargo}$$

$$P_{basket} = 280 lbf$$
 Combined weight of basket and cargo

Weight of cargo (max)

$$P_{lim_man} := P_{basket} \cdot n_{man}$$
 $P_{lim_man} = 980lbf$ Limit maneuvering load

$$\begin{aligned} P_{ult_man} &:= P_{basket} \cdot n_{man_ult} \\ P_{ult_man} &= 1470lbf \end{aligned} \qquad \qquad \text{Ultimate maneuvering load}$$

$$\begin{aligned} &P_{basket} \coloneqq W_{basket} + \ W_{cargo} \\ &P_{basket} = 2901bf \end{aligned} & \text{Combined weight of basket and cargo} \end{aligned}$$

$$P_{lim_man} := P_{basket} \cdot n_{man}$$

$$P_{lim_man} = 1015lbf$$
 Limit maneuvering load

$$P_{ult_man} = 1523lbf$$
 Ultimate maneuvering load

$W_{cargo} := 240 lbf$	Weight of cargo (ma:
$W_{cargo} := 240 lbf$	Weight of cargo (m

$$P_{basket} := W_{basket} + W_{cargo}$$

$$P_{basket} = 3001bf$$
 Combined weight of basket and cargo

$$P_{lim_man} := P_{basket} \cdot n_{man}$$

$$P_{lim man} = 1050lbf$$
 Limit maneuvering load

$$P_{ult_man} := P_{basket} \cdot n_{man_ult}$$

$$P_{ult\ man} = 1575lbf$$
 Ultimate maneuvering load

$$W_{cargo} := 250 \, lbf$$
 Weight of cargo (max)

$$P_{basket} := W_{basket} + W_{cargo}$$

$$P_{basket} = 310lbf$$
 Combined weight of basket and cargo

$$P_{lim_man} := P_{basket} \cdot n_{man}$$

$$P_{lim man} = 1085lbf$$
 Limit maneuvering load

$$P_{ult_man} := P_{basket} \cdot n_{man_ult}$$

$$P_{ult\ man} = 1628lbf$$
 Ultimate maneuvering load

5.2 Drag Load

The drag on the large basket is critical. It is used for all tests.

$$\rho := 0.002378 \frac{slug}{ft^3} \qquad \qquad \text{Density of air at Sea Level}.$$

$$V_{ne} := 155 \cdot knots$$
 Never-Exceed-Speed of AS350B3. (Ref. AS350 TCDS)

$$V_d := \frac{V_{ne}}{0.9}$$

$$V_{\rm d} = 172 {\rm knots}$$
 Design Dive Speed of AS350B3

l_{basket} := 97⋅in

Length of basket.

 $w_{basket} := 22.5 in$

Width of basket

 $h_{basket} := 19.25 in$

Height of basket.

 $A_f := 376 \text{ in}^2$

Frontal Area of basket.

 $A_p := I_{basket} \cdot w_{basket}$

 $A_p = 2183 \text{in}^2$

Planar Area of basket.

 $\frac{l_{\text{basket}}}{w_{\text{basket}}} = 4.3$

Fineness ratio of basket

 $C_{Do} := 1.1$

Drag Coefficient of Basket, (overestimated) (Ref. Hoerner, Fluid Dynamic Drag, Figure 22).

$$P_{drag} \coloneqq \frac{\rho}{2} \! \cdot \! V_d^{\ 2} \! \cdot \! A_f C_{Do}$$

 $P_{drag} = 289lbf$

Limt Drag on basket.

 $P_{drag_ult} := P_{drag} \cdot n_{sf}$

 $P_{drag\ ult} = 433lbf$

Ultimate Drag load on basket

 $AC_{drag} := 48.4 \text{ in}$

Lateral Aerodynamic Center of basket.

(Low configuration)

6.0 LOAD TEST

6.1 Test Setup

A scrap set of landing gear cross tubes and skid tube were setup as they would be installed on the helicopter. The free side of the cross tubes were clamped to a table to prevent tipping of the test setup under load. The attachment provisions were installed in accordance with drawing 78601, using light wall beams part number 78631-01-10.

The maneuvering load is applied by stacking bags of lead shot (25 lbs each) into a basket installed on the beams. The drag load is applied with a chain come-along attached to a load cell, pulling on the aft face of the basket.

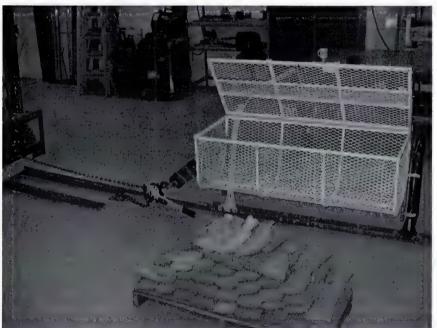


Figure 6.1.1 - Test Setup

6.2 Beams Load Test

The high configuration is more critical than the mid or low configurations because the basket is attached above the attachments to the cross tubes. The load from a short basket with 300 lbs of cargo is used as this is the maximum load that can be applied from any basket configuration.

6.2.1 Limit Load

The limit loads on the short basket installation with 300 lbs of cargo are:

 $P_{lim_man} = 1190 lbs.$

Limit Positive Maneuvering Load

 $P_{lim drag} = 289 lbs.$

Limit Drag Load

The basket was loaded with 1250 lbs of lead shot (50 bags), and pulled aft 300 lbs. The loads were removed and the beams checked for permanent deformation. There was no permanent deformation found.

6.2.2 Ultimate Load

The ultimate loads on the short basket installation with 300 lbs of cargo are:

P_{ult man} = 1785 lbs.

Ultimate Positive Maneuvering Load

 $P_{ult_drag} = 433 lbs.$

Ultimate Drag Load

The basket was loaded with 1775 lbs of lead shot (71 bags), and pulled aft 490 lbs. The basket applied 1g down (40 lbs) for a total down load of 1815 lbs. The load was applied for more than 3 seconds.

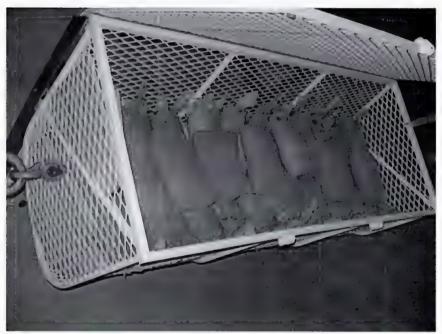


Figure 6.2.1 - Ultimate Maneuvering Load



Figure 6.2.2 – Ultimate Drag Load

The load was removed and the beams checked for permanent deformation and failure. There was slight deformation of both beams, about 1/32" on the forward beam and about 1/8" on the aft beam. The increased deformation of the aft beam may be due to a slight downward component from the drag load. The deformation is not excessive and does not prevent removal or installation of the basket. The light wall beams are sufficient for installation.

6.3 Medium Basket Load Test

Testing of the medium basket is to demonstrate that the basket is capable of supporting an increased cargo load. The basket was fabricated in accordance with drawings 76410, 76411, and 76412.

6.3.1 Limit Load

The limit maneuvering load and limit drag load must be carried without permanent deformation. The cargo load is incremented by 10 lbs up to 250 lbs. The existing approved configuration is 200 lbs of cargo.

Limit Positive Maneuvering Load (200 lbs cargo)
Limit Positive Maneuvering Load (210 lbs cargo)
Limit Positive Maneuvering Load (220 lbs cargo)
Limit Positive Maneuvering Load (230 lbs cargo)
Limit Positive Maneuvering Load (240 lbs cargo)
Limit Positive Maneuvering Load (250 lbs cargo)

 P_{lim_drag} = 289 lbs. Limit Drag Load

The basket applies 1g down (45 lbs). The basket was loaded with 900 lbs of lead (945 lbs total) and pulled aft 300 lbs for more than 3 seconds (220 lbs cargo). The load was removed and the basket was checked for permanent deformation. There was no deformation found. The basket was then loaded with 1000 lbs of lead (1045 lbs total) and pulled aft 320 lbs (250 lbs cargo) for more than 3 seconds.

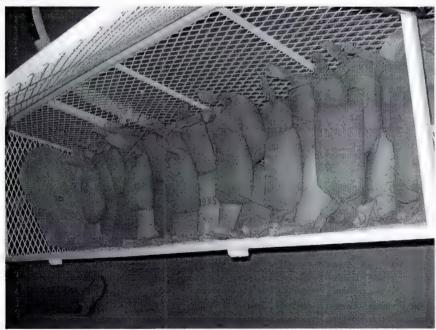


Figure 6.3.1 - Limit Maneuvering Load



Figure 6.3.2 – Limit Drag Load

The load was removed and the basket was checked for permanent deformation. There was no permanent deformation found. Testing continued to ultimate load.

6.3.2 Ultimate Load

The combined ultimate maneuvering load and ultimate drag load must be carried without failure.

P_{ult_man} = 1286 lbs.	Ultimate Positive Maneuvering Load
$P_{ult_man} = 1339 lbs.$	Ultimate Positive Maneuvering Load
$P_{ult_man} = 1391 lbs.$	Ultimate Positive Maneuvering Load
$P_{ult_man} = 1444 lbs.$	Ultimate Positive Maneuvering Load
$P_{ult_man} = 1496 lbs.$	Ultimate Positive Maneuvering Load
$P_{ult_man} = 1549 lbs.$	Ultimate Positive Maneuvering Load

Since the load must be carried without failure, the load does not need to be removed after each increase. The load was applied for more than 3 seconds before continuing to the next increment. The basket was loaded with 1525 lbs of lead (1570 lbs total) and pulled aft 440 lbs for more than 3 seconds.



Figure 6.3.3 - Ultimate Maneuvering Load



Figure 6.3.4 - Ultimate Drag Load

The load was removed and the basket checked for deformation or failure. There was no permanent deformation found. The medium basket assembly 76410-01 is acceptable for an increase in cargo load to 250 lbs.

6.4 Long Basket Load Test

Testing of the long basket is to demonstrate that the basket is capable of supporting an increased cargo load. The basket was not a complete assembly, it was the body only, fabricated in accordance with drawing 78411.

6.4.1 Limit Load

The combined limit maneuvering load and limit drag load must be carried without permanent deformation. The cargo load is incremented by 10 lbs up to 250 lbs. The existing approved configuration is 200 lbs of cargo.

P _{lim_man} = 910 lbs.	Limit Positive Maneuvering Load (200 lbs cargo)
$P_{lim_man} = 945 lbs.$	Limit Positive Maneuvering Load (210 lbs cargo)
$P_{lim_man} = 980 lbs.$	Limit Positive Maneuvering Load (220 lbs cargo)
$P_{\text{lim}_{man}} = 1015 \text{ lbs}.$	Limit Positive Maneuvering Load (230 lbs cargo)
$P_{lim_man} = 1050 lbs.$	Limit Positive Maneuvering Load (240 lbs cargo)
$P_{lim_man} = 1085 lbs.$	Limit Positive Maneuvering Load (250 lbs cargo)

 P_{lim_drag} = 289 lbs. Limit Drag Load

The basket applies 1g down (34 lbs). The basket was loaded with 950 lbs of lead (984 lbs total) and pulled aft 290 lbs for more than 3 seconds (220 lbs cargo).

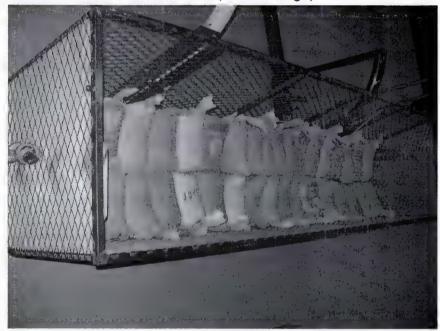


Figure 6.4.1 – Limit Maneuvering Load (950 lbs lead)



Figure 6.4.2 - Limit Drag Load

The load was removed and the basket was checked for permanent deformation. There was no deformation found. The basket was then loaded with 1075 lbs of lead (1109 lbs total) and pulled aft 290 lbs (250 lbs cargo) for more than 3 seconds.

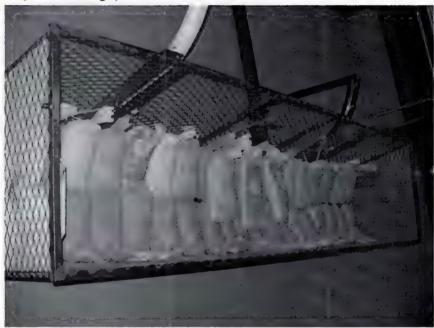


Figure 6.4.3 – Limit Maneuvering Load (1075 lbs lead)

AERO Design Ltd. ER764.04



Figure 6.4.4 – Limit Drag Load

There was no failure under load. The load was removed and the basket checked for permanent deformation. There was no deformation found. Testing continued to ultimate load.

6.4.2 Ultimate Load

The combined ultimate maneuvering load and ultimate drag load must be carried without failure.

$P_{ult_man} = 1365 lbs.$	Ultimate Positive Maneuvering Load
$P_{ult_man} = 1418 lbs.$	Ultimate Positive Maneuvering Load
$P_{ult_man} = 1470 lbs.$	Ultimate Positive Maneuvering Load
$P_{ult_man} = 1523 lbs.$	Ultimate Positive Maneuvering Load
$P_{ult_man} = 1575 lbs.$	Ultimate Positive Maneuvering Load
$P_{ult_man} = 1628 lbs.$	Ultimate Positive Maneuvering Load

Since the load must be carried without failure, the load does not need to be removed after each increase. The load was applied for more than 3 seconds before continuing to the next increment. The basket was loaded with 1600 lbs of lead (1634 lbs total) and pulled aft 450 lbs for more than 3 seconds.

AERO Design Ltd. ER764.04



Figure 6.4.5 - Ultimate Maneuvering Load



Figure 6.4.6 - Ultimate Drag Load

There was no failure under load. The load was removed and the basket was checked for permanent deformation or failure. There was slight deformation of the forward and aft ends of the basket. The deformation is not excessive and did not prevent removal or installation of the basket. The long basket assembly 78410-01 is acceptable for an increased cargo load to 250 lbs.

2013 - 39 Avenue N.E., Calgary, Alberta, T2E 6R7

Tel: 403-250-8027 Fax: 403-250-8333 www.aerodesign.ca



02 February 2010

Transport Canada Aircraft Certification Division 11th Floor, Canada Place 9700 Jasper Avenue Edmonton, Alberta T5J 4E6

Attn: Jack Staal Your File: C-10-0102

Our File: 764

Re: Eurocopter AS350 Cargo Baskets

Jack,

Please find attached the following documents related to this project:

Modification Approval Request Application Form MOD764 Rev. 1

The documents related to this revision have been uploaded into NDWL for review.

Regards,

E. Burgoin, P.Eng, DAR 290M

Encl.

	MODIFICATION APPROV	AL R	EQUEST AP	PLICAT	ION FO	RM	MOD7	64, Rev. 1
1.	NAME AND ADDRESS OF APPLICANT:	2.	IDENTIFICATION	OF PRODU	СТ			
	AERO Design Ltd. 2013 - 39th Avenue NE Calgary, Alberta T2E 6R7	MAH	(E: urocopter		A	DEL: AS350 (all AS355 (all		
	ALL CORRESPONDANCE TO: AERO Design Ltd. 2013 - 39th Avenue NE Calgary, Alberta T2E 6R7		SERIAL No.: All eligible			GISTRATION		
3.	REQUEST FOR:							
	A. SUPPLEMENTAL TYPE CERTIFICATE (STC)							
	B. STC/STA REVISION	\boxtimes	STC/STA No. S	H08-16	C-1	0-0/0)	
	C. LIMITED SUPPLEMENTAL TYPE CERTIFICATE (LSTC)					0,00		
	D. LIMITED STC/STA REVISION		LSTC/LSTA No.					
	E. F.A.A. SUPPLEMENTAL TYPE CERTIFICATE							
	F. F.A.A. STC REVISION		STC No.					
	G. FAMILIARIZATION OF F.A.A. STC		STC No.					
	H. REPAIR DESIGN APPROVAL (RDC)							
	PARTS DESIGN APPROVAL (PDA)							
4.	TITLE OF MODIFICATION OR REPAIR: Quick Release Cargo Basket Installation							
5.	BRIEF DESCRIPTION OF MODIFICATION OR REPAIR:							
	Installation of external attachment provisions; Installation of cargo	o basket						
6.	APPLICABLE TYPE APPROVAL (TA) OR TYPE CERTIFICATE	(TC) D	OCUMENTS:					-
	A. TA NO. <u>H-83/H-87</u> B. TC No		C. OTHER					
7.	PROPOSED BASIS OF APPROVAL:							
	A. SAME AS TA 🛛 B. SAME AS TC 🗆		C. OTHER	(Please	specify)			
8.				REQU	JIRED	FOR	DOT USE	ONLY
	DOCUMENTATION CHECKLIST						RECEIVED	
\vdash	COMPLIANCE PROGRAM	-		YES	NO	YES	NO	DATE
	MASTER DRAWING LIST			X	Х			
\vdash	FLIGHT MANUAL SUPPLEMENT			X				
-	MAINTENANCE MANUAL SUPPLEMENT				X			
	INSTRUCTIONS FOR CONTINUING AIRWORTHINESS			X				
	ENGINEERING REPORTS			X				
	DESIGN DRAWINGS				х			
	MANUFACTURE DRAWINGS & INSTALLATION INSTRUCTION	NS		х				
	ELECTRICAL LOAD ANALYSIS				Х			
	DRAFT STC, LSTC OR RDA				х			
	WEIGHT AND MOMENT CHANGE			Х				
	FLIGHT TEST DATA				Х			
	OTHER (Specify)							
9.	APPLICANT'S REMARKS:							
10.	In addition to the payment of Aircraft Certification approval fees as prescri incremental expenses as in Aviation Regulation Directive No. 3, or equiva	bed in Ca lent, as a	nadian Aviation Regul pplicable. For further o	ations (CAR) details govern	Section 104, ling cost recov	agree to rein ery, refer to A	nburse Transp MA 513/4.	port Canada
	PER:	Co	nsultant				2 Februar	y, 2010
	SIGNATURE OF APPLICANTS	TITLE					DATE	
11.								
	SIGNATURE OF REGIONAL ENGINEER						DATE	

AS350 & AS355 SERIES HELICOPTERS

ROTORCRAFT FLIGHT MANUAL SUPPLEMENT for the

INSTALLATION of the AERO DESIGN QUICK RELEASE CARGO BASKET AND/OR QUICK RELEASE MAINTENANCE STEP

CARGO BASKET MODELS: 76401, 77601, 78401

TCCA Supplemental Type Certificate No. SH08-16 FAA Supplemental Type Certificate No. SR02680NY

Sections I, II, III and IV of this document comprise the Transport Canada Approved sections of this Flight Manual Supplement. Compliance with Section I, Limitations, is mandatory. Section V and any subsequent sections if present are Unapproved and are provided for information only.

The information and data contained in this Flight Manual Supplement supersede or supplement that contained in the basic Approved Flight Manual for the Eurocopter AS350 and AS355 Series Helicopters when fitted with the Quick Release Cargo Basket Installation and/or Quick Release Maintenance Step Installation. For limitations, procedures and performance not listed in this Flight Manual Supplement refer to the Approved Flight Manual and other approved Flight Manual Supplements.

FMS764.91

Table of Contents

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Ш	Normal Procedures	3
Ш	Emergency Procedures	3
IV	Performance	3
V	Weight and Balance	4
	Installation / removal instructions	14

Record of Revisions

Revision	Issue Date	Pages Revised	Date Inserted	Ву
0	25 Feb, 2008	None		
1	29 Jan, 2010	All		
				•

I LIMITATIONS

- The maximum load in the AERO Design Ltd. Quick Release Cargo Basket Models 764 and 784 is 250 lb. (113 kg). The maximum load in the AERO Design Ltd. Quick Release Cargo Basket Model 776 is 300 lb. (135.7 kg).
- Only one basket may be installed on the helicopter, on the right or left side.
- Flight operations limited to VFR conditions with AERO Design Ltd. Quick Release Cargo Basket installed.
- 4. V_{NE} is unchanged from the basic rotorcraft.
- AS355NP only: For Category A operations, the basket must be removed. Mounting provisions may be left in place.

II NORMAL PROCEDURES

- 1. Pre-flight inspections:
 - Ensure that all cargo stored in the cargo basket is properly tied down and secured for flight.
 - b) Ensure that the lid of cargo basket is closed and secured.
 - c) Ensure the basket is locked in postion on the beams. Pull up on the forward and aft end of the basket to check.

CAUTION

It is possible to exceed the lateral centre of gravity limits of the rotorcraft under some loading conditions. Pilots must ensure that lateral C of G is within limits when loading the basket.

III EMERGENCY PROCEDURES

No change from basic Approved Flight Manual.

IV PERFORMANCE

- Cruise performance and range will be reduced by approximately 8
 percent with the Cargo Basket Installed.
- 2. AEO climb performance will be reduced by up to 150 fpm.

V WEIGHT AND BALANCE

This section contains weight and balance information for cargo basket models 76401, 77601, and 78401. Each model has multiple configurations. Refer to the weight and balance information applicable to model and configuration installed.

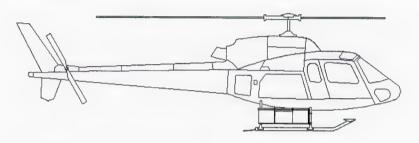
Weight and balance is for Cargo Basket only. Mounting beams are not included since they should have been included in the basic rotorcraft weight and balance at time of initial installation.

Longitudinal and Lateral moment arms for Cargo are given only for the center of the Cargo Basket. Due to the length of the basket, some loading arrangements may require that actual moment arms be measured, to determine the correct moments about the center of gravity.

CAUTION:

It is possible to exceed lateral CG limits in some configurations.

 MODEL 77601 (Short Basket). The following weight and balance is for the cargo basket installed in accordance with drawing 77601.



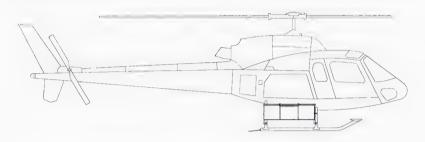
A) Configuration 77601-01 (Short Basket, Low mounted)

S	ta	n	d	2	re
•	La		ч	•	н ч

		Otariaai	-			
P/N	Description	Weight	Long	itudinal	Lat	teral
			arm	moment	arm	moment
		lb	in	in-lb	in	in-lb
77610-01	Basket (RH)	35.0	135.7	4749.5	48.1	1683.5
	Maximum Cargo (RH)	300.0	135.7	40710.0	48.1	14430.0
77610-01	Basket (LH)	35.0	135.7	4749.5	-48.1	-1683.5
	Maximum Cargo (LH)	300.0	135.7	40710.0	-48.1	-14430.0

		Metric				
P/N	Description	Weight	Long	gitudinal	La	teral
			arm	moment	arm	moment
		kg	mm	mm-kg	mm	mm-kg
77610-01	Basket (RH)	15.8	3446.8	54587.0	1221.7	19348.8
	Maximum Cargo (RH)	135.7	3446.8	467730.8	1221.7	165784.7
77610-01	Basket (LH)	15.8	3446.8	54587.0	-1221.7	-19348.8
	Maximum Cargo (LH)	135.7	3446.8	467730.8	-1221.7	-165784.7

FMS764.91



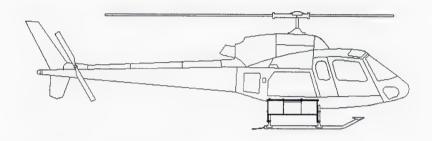
B) Configuration 77601-03 (Short Basket, Mid mounted)

Standard

Standard									
P/N	Description	Weight	Weight Longitudinal		Lateral				
			arm	moment	arm	moment			
		lb	in	in-lb	in	in-lb			
77610-01	Basket (RH)	35.0	135.7	4749.5	46.5	1627.5			
	Maximum Cargo (RH)	300.0	135.7	40710.0	46.5	13950.0			
77610-01	Basket (LH)	35.0	135.7	4749.5	-46.5	-1627.5			
	Maximum Cargo (LH)	300.0	135.7	40710.0	-46.5	-13950.0			

			F			***	
P/N	Description	Weight	Longitudinal		eight Longitudinal Lateral		teral
			arm	moment	arm	moment	
		kg	mm	mm-kg	mm	mm-kg	
77610-01	Basket (RH)	15.8	3446.8	54587.0	1181.1	18705.2	
	Maximum Cargo (RH)	135.7	3446.8	467730.8	1181.1	160275.3	
77610-01	Basket (LH)	15.8	3446.8	54587.0	-1181.1	-18705.2	
	Maximum Cargo (LH)	135.7	3446.8	467730.8	-1181.1	-160275.3	

FMS764.91



C) Configuration 77601-02 (Short Basket, High mounted)

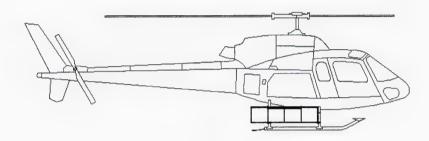
Standard

		Standard	8			
P/N	Description Weight		Longitudinal		Lateral	
			arm	moment	arm	moment
		lb	in	in-lb	in	in-lb
77610-01	Basket (RH)	35.0	135.7	4749.5	45.6	1596.0
	Maximum Cargo (RH)	300.0	135.7	40710.0	45.6	13680.0
77610-01	Basket (LH)	35.0	135.7	4749.5	-45.6	-1596.0
	Maximum Cargo (LH)	300.0	135.7	40710.0	-45.6	-13680.0

		HICKITO				
P/N	Description	Weight	Long	gitudinal	La	teral
			arm	moment	arm	moment
		kg	mm	mm-kg	mm	mm-kg
77610-01	Basket (RH)	15.8	3446.8	54587.0	1158.2	18343.2
	Maximum Cargo (RH)	135.7	3446.8	467730.8	1158.2	157167.7
77610-01	Basket (LH)	15.8	3446.8	54587.0	-1158.2	-18343.2
	Maximum Cargo (LH)	135.7	3446.8	467730.8	-1158.2	-157167.7

FMS764.91

2. **MODEL 76401 (Medium Basket)**. The following weight and balance is for the cargo basket installed in accordance with drawing 76401.



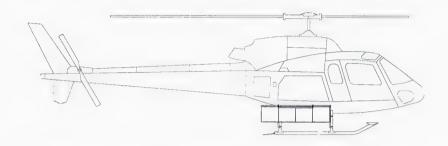
A) Configuration 76401-01 (Medium Basket, Low Mounted)

Standard

		Ottiliaai				
P/N	Description	Weight	Longitudinal		Lateral	
			arm	moment	arm	moment
		lb	in	in-lb	in	in-lb
76410- 01-01	Basket (RH)	45.0	144.9	6520.5	48.6	2187.0
	Maximum Cargo (RH)	250.0	144.9	36225.0	48.6	12150.0
76410- 01-02	Basket (LH)	45.0	144.9	6520.5	-48.6	-2187.0
	Maximum Cargo (LH)	250.0	144.9	36225.0	-48.6	-12150.0

P/N	Description	Weight	Longitudinal		Lateral	
			arm	moment	arm	moment
		kg	mm	mm-kg	mm	mm-kg
76410- 01-01	Basket (RH)	20.4	3680.5	74941.5	1234.4	25135.7
	Maximum Cargo (RH)	113.1	3680.5	416264.6	1234.4	139610.6
76410- 01-02	Basket (LH)	20.4	3680.5	74941.5	-1234.4	-25135.7
	Maximum Cargo (LH)	113.1	3680.5	416264.6	-1234.4	-139610.6

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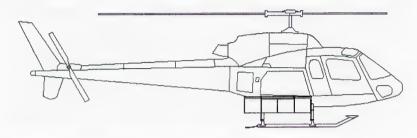
B) Configuration 76401-03 (Medium Basket, Mid Mounted)

Standard

		Stantian	Ų.			
P/N	Description	Weight	Long	itudinal	Lateral	
			arm	moment	arm	moment
		lb	in	in-lb	in	in-lb
76410- 01-01	Basket (RH)	45.0	144.9	6520.5	47.0	2115.0
	Maximum Cargo (RH)	250.0	144.9	36225.0	47.0	11750.0
76410- 01-02	Basket (LH)	45.0	144.9	6520.5	-47.0	-2115.0
	Maximum Cargo (LH)	250.0	144.9	36225.0	-47.0	-11750.0

						
P/N	Description	Weight	Longitudinal		Lateral	
			arm	moment	arm	moment
		kg	mm	mm-kg	mm	mm-kg
76410- 01-01	Basket (RH)	20.4	3680.5	74941.5	1193.8	24308.1
	Maximum Cargo (RH)	113.1	3680.5	416264.6	1193.8	135018.8
76410- 01-02	Basket (LH)	20.4	3680.5	74941.5	-1193.8	-24308.1
	Maximum Cargo (LH)	113.1	3680.5	416264.6	-1193.8	-135018.8

FMS764.91



C) Configuration 76401-02 (Medium Basket, High Mounted)

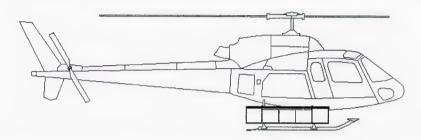
Standard

P/N	Description	Weight	Longitudinal		Lateral	
			arm	moment	arm	moment
		lb	in	in-lb	in	in-lb
76410- 01-01	Basket (RH)	45.0	144.9	6520.5	46.1	2074.5
	Maximum Cargo (RH)	250.0	144.9	36225.0	46.1	11525.0
76410- 01-02	Basket (LH)	45.0	144.9	6520.5	-46.1	-2074.5
	Maximum Cargo (LH)	250.0	144.9	36225.0	-46.3	-11525.0

P/N	Description	Weight	Long	itudinal	Lateral	
			arm	moment	arm	moment
		kg	mm	mm-kg	mm	mm-kg
76410- 01-01	Basket (RH)	20.4	3680.5	74941.5	1170.9	23842.7
	Maximum Cargo (RH)	113.1	3680.5	416264.6	1170.9	132428.8
76410- 01-02	Basket (LH)	20.4	3680.5	74941.5	-1170.9	-23842.7
	Maximum Cargo (LH)	113.1	3680.5	416264.6	-1170.9	-132428.8

FMS764.91

 MODEL 78401 (Long Basket). The following weight and balance is for the cargo basket installed in accordance with drawing 78401.



A) Configuration 78401-01 (Long Basket, Low Mounted)

Standard

		Stariuar	u			
P/N	Description	Weight	Longitudinal		Lateral	
			arm	moment	arm	moment
		lb	in	in-lb	in	in-lb
78410-01	Basket (RH)	57.5	135.7	7802.8	48.4	2783.0
	Maximum Cargo (RH)	250.0	135.7	33925.0	48.4	12100.0
78410-01	Basket (LH)	57.5	135.7	7802.8	-48.4	-2783.0
	Maximum Cargo (LH)	250.0	135.7	33925.0	-48.4	-12100.0

P/N	Description	Weight	Long	gitudinal	Lateral		
			arm	moment	arm	moment	
		kg	mm	mm-kg	mm	mm-kg	
78410-01	Basket (RH)	26.0	3446.8	89678.7	1229.4	31985.6	
	Maximum Cargo (RH)	113.1	3446.8	311925.8	1229.4	139045.1	
78410-01	Basket (LH)	26.0	3446.8	89678.7	-1229.4	-31985.6	
	Maximum Cargo (LH)	113.1	3446.8	311925.8	-1229.4	-139045.1	

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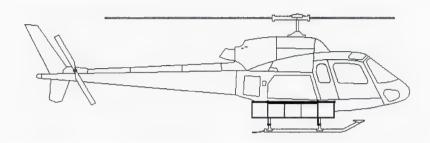
B) Configuration 78401-03 (Long Basket, Mid Mounted)

Standard

		Staridar	ч			
P/N	Description	Weight	Longitudinal		Lateral	
			arm	moment	arm	moment
		lb	in	in-lb	in	in-lb
78410-01	Basket (RH)	57.5	135.7	7802.8	47.0	2702.5
	Maximum Cargo (RH)	250.0	135.7	33925.0	47.0	11750.0
78410-01	Basket (LH)	57.5	135.7	7802.8	-47.0	-2702.5
	Maximum Cargo (LH)	250.0	135.7	33925.0	-47.0	-11750.0

P/N	Description	Weight	Longitudinal		La	iteral
			arm	moment	arm	moment
		kg	mm	mm-kg	mm	mm-kg
78410-01	Basket (RH)	26.0	3446.8	89678.7	1193.8	31060.4
	Maximum Cargo (RH)	113.1	3446.8	311925.8	1193.8	135018.8
78410-01	Basket (LH)	26.0	3446.8	89678.7	-1193.8	-31060.4
	Maximum Cargo (LH)	113.1	3446.8	311925.8	-1193.8	-135018.8

FMS764.91



C) Configuration 78401-02 (Long Basket, High Mounted)

Standard

		Otariaar				
P/N	Description	Weight	Long	itudinal	Lat	teral
			arm	moment	arm	moment
		lb	in	in-lb	in	in-lb
78410-01	Basket (RH)	57.5	135.7	7802.8	46.1	2650.8
	Maximum Cargo (RH)	250.0	135.7	33925.0	46.1	11525.0
78410-01	Basket (LH)	57.5	135.7	7802.8	-46.1	-2650.8
	Maximum Cargo (LH)	250.0	135.7	33925.0	-46.1	-11525.0

P/N	Description	Weight	Long	itudinal	La	teral
			arm	moment	arm	moment
		kg	mm	mm-kg	mm	mm-kg
78410-01	Basket (RH)	26.0	3446.8	89678.7	1170.9	30465.6
	Maximum Cargo (RH)	113.1	3446.8	311925.8	1170.9	132428.8
78410-01	Basket (LH)	26.0	3446.8	89678.7	-1170.9	-30465.6
	Maximum Cargo (LH)	113.1	3446.8	311925.8	-1170.9	-132428.8

VI INSTALLATION / REMOVAL INSTRUCTIONS

Cargo Baskets

The beams are installed in accordance with 78601. The basket is installed in accordance with drawing 76401, 77601 or 78401, as applicable. Removal of the basket leaving the beams in place is an approved configuration for flight. Logbook entry indicating installation or removal of basket and which weight and balance amendment is in effect is required when basket is installed or removed.

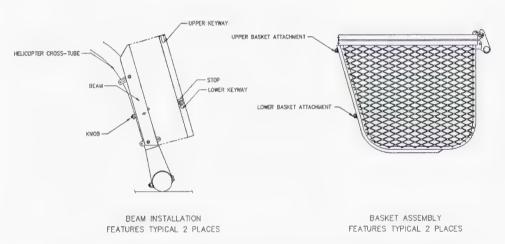


Figure 1 – Basket Attachment Features (Low beam installation shown. Beam attachment features typical for low and high beam installations)

- 4. Installation Refer to Figure 1 and Figure 2.
 - a) Set basket upper attachment into upper keyway in forward and aft beams.
 - b) At forward attachment hoop, lift basket until lower attachment fitting hits stop.
 - c) Push fitting into keyway and slide basket down until locked.
 - d) Repeat step a,b and c for aft attachment hoop.

FMS764.91

- 2. Removal Refer to Figure 1 and Figure 2.
 - a) Pull knob at bottom end of forward beam and lift basket until lower attachment fitting is free of keyway. Keep upper basket attachment in keyway on beam.
 - b) Pull knob at bottom end of aft beam and lift basket until lower attachment fitting is free of keyway. Keep upper basket attachment in keyway on beam.
 - c) Lift basket until upper attachments are out of keyways on both beams and remove basket from helicopter.

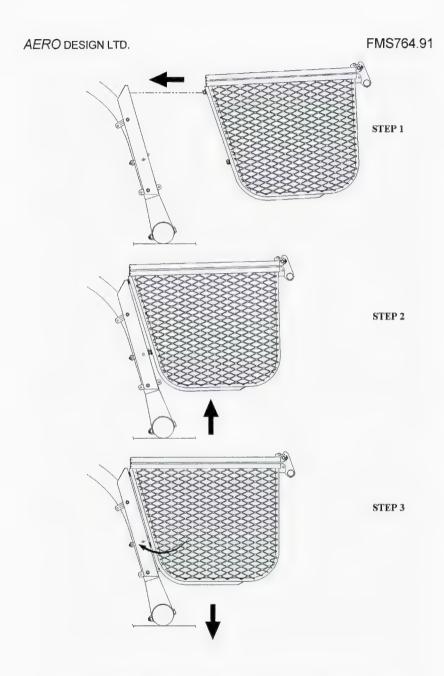


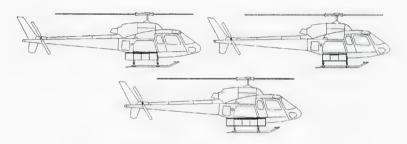
Figure 2 – Basket Attachment Steps (Low basket installation shown. Installation instructions typical for low and high basket installation).

INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA 764.90

EUROCOPTER AS350 & AS355 SERIES

QUICK RELEASE CARGO BASKET

MODELS: 764, 776 AND 784



TCCA Supplemental Type Certificate No. SH08-16 FAA Supplemental Type Certificate No. SR02680NY

<u>Preface</u>

These Instructions for Continued Airworthiness shall be included in the rotorcraft Maintenance Manual when the Quick Release Cargo Basket installed in accordance with AERO Design Ltd. Document Control Lists:

- DCL764-1 (for Installation 76401), Revision 2,
- DCL776-1 (for Installation 77601), Revision 2,
- DCL784-1 (for Installation 78401), Revision 2,
- DCL786-1 (for mounting provision), Revision 2, or later approved revision, is installed.

The information contained herein supplements the information in the basic Maintenance Manual. For Maintenance practices and procedures not contained in these Instructions for Continued Airworthiness refer to the basic Maintenance Manual and its approved supplements.

Revision 2 Date: 22 December, 2009

<u>AERO Design Ltd.</u> Engineering Consultants 2013 – 39th Avenue N.E., Calgary, Alberta T2E 6R7

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RECORD OF REVISIONS

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25 February 2008		Original Issue	
24 June, 2009			
22 December 2009			
	25 February 2008 24 June, 2009	25 February 2008 24 June, 2009	25 February 2008 Original Issue 24 June, 2009

LIST OF EFFECTIVE PAGES

List of Revisions	Revision 0 (Original Issue)	25 February, 2008
LIST OF TREVISIONS	Revision 1	24 June, 2009
	Revision 2	22 December, 2009

List of Effective Pages

Description	<u>Pages</u>	Revision No.
Cover	1	2
Revision Record/List of Effective Pages	2	2
Table of Contents	3	2
00-00-00	4-5	0
04-00-00	6	1
05-00-00	7-10	1
11-00-00	11	2
25-50-00	12-22	2

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ICA 764.90

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CHAPTER 0 - INTRODUCTION

0-1 SCOPE

The following Instructions for Continued Airworthiness (ICA) satisfy the requirements of 14 CFR 27.1529, and provide the information necessary to complete the on-going maintenance and inspections required for rotorcraft embodying the Quick Release Cargo Basket as described herein.

0-2 DEFINITIONS AND ABBREVIATIONS

ICA - Instructions for Continued Airworthiness

LH - Left Hand

RH - Right Hand

0-3 DISTRIBUTION

Copies of this ICA and amendments shall be distributed to all known purchasers of the Quick Release Cargo Basket. Requests for a copy may be made in writing to:

AERO Design Ltd. 2013 39th Avenue N.E. Calgary, Alberta T2E 6R7

Fax: 403-250-8333

Email: info@aerodesign.ca

Any changes will be sent to Transport Canada. All changes will be recorded in the Record of Revisions page at the front of this document.

0-4 COMPATIBILITY

Prior to incorporating this modification, the installer shall establish that the interrelationship between this change and any other modification(s) incorporated will not adversely affect the airworthiness of the helicopter.

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0-5 GENERAL DESCRIPTION

The cargo basket installation is a metal mesh basket installed to the side of the helicopter on beams attached to the landing gear cross tubes. The quick release basket allows for the installation and removal of the basket without tools, leaving the mounting beams in place.

The basket itself is made of a steel welded tubing structure, and lined with expanded steel mesh. The basket has a hinged lid with a self-locking handle.

The beams consist of a steel tube bolted to a clamp on the cross-tube. The quick release mechanism is built into the steel tube.

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CHAPTER 4 - AIRWORTHINESS LIMITATIONS

Transport Canada

The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister.

FAA

The Airworthiness Limitations section is FAA approved and specifies maintenance required under Sections 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

No additional airworthiness limitations have been imposed due the installation of the Quick Release Cargo Basket.

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CHAPTER 5 – INSPECTION REQUIREMENTS

5-1 INSPECTION SCHEDULE

Continued airworthiness is contingent upon compliance with the following inspection items. These items shall be completed in conjunction with the rotorcraft Maintenance Inspection schedule, or other approved program, or upon removal and replacement of any component of Quick Release Cargo Basket.

Daily Inspection

- 1. Inspection Area: Basket
 - a) Inspect the basket attachment to the beams for condition and security. Ensure quick release mechanism is completely extended, flush with the outboard surface of the beam.
 - b) Inspect latching of the lid for correct operation. If basket is bent inward the lid will close but may not latch.

300 Hour or Annual Inspection

- 1. Inspection Area: Basket
 - a) Visually inspect tube-to-tube welds and mesh-to-tube welds for cracks, corrosion or other damage.
 - b) Visually inspect basket mesh for damage.
- Inspection Area: Beams

With the basket removed:

- a) Visually inspect beams and clamps attaching basket to the helicopter for cracks, corrosion or other damage.
- b) Visually inspect lugs attaching the basket to the beams for security and damage.
- c) Visually inspect bolts attaching beams to clamps and clamps to cross tubes for condition and security.

Special Inspections

- 1. Following a hard landing inspect the Quick Release Cargo Basket installation in accordance with the 300 hour or annual inspection listed above.
- 2. Any joints using a helical thread insert (Helicoil) shall be inspected on assembly in accordance with the procedure for checking self locking nuts and screws specified in the Eurocopter Standard Practices Manual, Section 20.02.05.601

Revision 1 05-00-00

5-2 DAMAGE LIMITS / REPAIR INSTRUCTIONS

If damage is found in the inspections above, repair in accordance with the instructions below.

1. Basket

- a) Repair Basket in accordance with AC43.13-1B, Chapter 4, Section 5, Welding, as required.
- b) Basket is fabricated from the following materials:

Attachment Hoops:

1" square steel tube and/or 1/2" square steel tube

Lid and Rim:

3/4" square steel tube

Frames:

1/2" square steel tube

Mesh:

3/4" 16 ga. (0.040") expanded steel mesh

c) Touch up with polyurethane paint as required following repairs.

2. Steel Beams

DO NOT REPAIR DAMAGE TO BEAMS IF BEYOND THE LIMITS BELOW.

- a) Nicks and/or gouges on the inboard face up to 0.030" deep and 0.125" wide may be dressed out to a smooth contour.
- b) Nicks and/or gouges on the side and outboard faces up to 0.060" deep and 0.125" wide may be dressed out to a smooth contour.
- c) Critical keyway dimensions are shown in Figure 1. Attempt to insert 27/64 drill shank into bottom end of keyway. If drill can be inserted, slot is worn beyond limit.

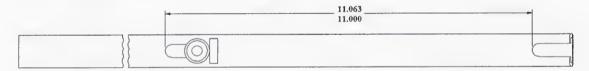


Figure 5.1 – Keyway dimensions – typical for low and high beam assemblies

d) Touch up with polyurethane paint as required following repairs.

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3. Aluminum Clamps

DO NOT REPAIR DAMAGE TO CLAMPS IF BEYOND THE LIMITS BELOW.

- a) Nicks and/or gouges on the top or bottom surface up to 0.060" deep and 0.125" wide may be dressed out to a smooth contour. Refer to Figure 2.
- b) Nicks and/or gouges on the outer edge up to 0.030" deep and 0.125" wide may be dressed out to a smooth contour. Refer to Figure 2.
- c) Any cracking on any surface is unacceptable.
- d) Touch up with polyurethane paint as required following repairs.

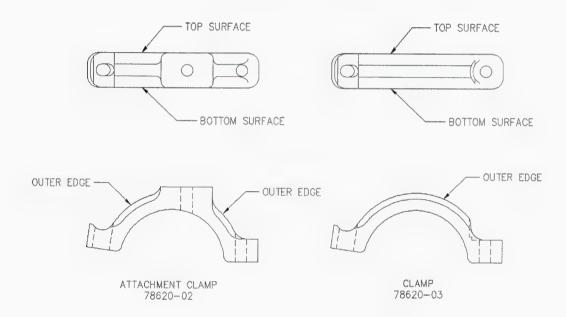


Figure 5.2 - Aluminum Clamps

4. Helical Thread Inserts

Helical thread inserts (Helicoils) found to be damaged shall be repaired in accordance with the Eurocopter Standard Practices Manual, Section 20.03.04.404.

Part numbers:

1/4-28 insert: 3591-4CN375

5-3 PROTECTIVE TREATMENT INFORMATION

1. Beams

The steel tubes are supplied powder coated white. If the powder coat is damaged, touch up with white polyurethane paint.

2. Clamps

The aluminum clamps are supplied painted white. If the paint is damaged, touch up with white polyurethane paint.

3. Cargo Basket

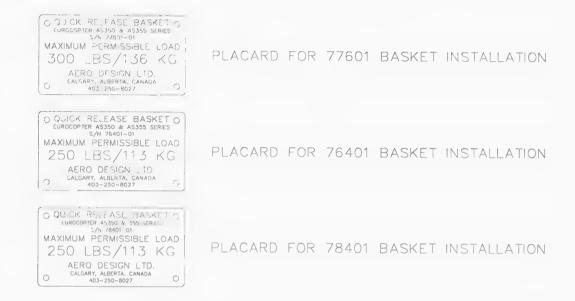
The cargo basket is supplied powder coated white. If the powder coat is damaged, touch up with white polyurethane paint.

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CHAPTER 11 - MARKINGS AND PLACARDS

The following markings and placards are used with the Quick Release Cargo Basket Installation in the locations noted:

a) Located on basket lid:



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CHAPTER 25 – EQUIPMENT AND FURNISHINGS

SECTION 50 - CARGO COMPARTMENTS

The Quick Release Cargo Basket Installation may be applied to the right or left side of the helicopter.

25-1 BEAMS INSTALLATION

Refer to Figure 25.1. Refer to section 25-5 for part numbers.

- 1. Attach two (2) Attachment Clamps (78620-02) to each Beam Assembly with two (2) AN4-14A Bolts and two (2) AN960-416 Washers. Do not tighten bolts.
- 2. Locate the Beam Assemblies onto the forward and aft skid gear cross-tubes on the helicopter as shown in drawing 78601.
- 3. Position two (2) Clamps (78620-03) onto the Attachment Clamps (78620-02) around cross tube. Fasten together using one AN4-14A Bolt, AN960-416 Washers and MS21044N4 Nut through one side of the Clamp Assembly and one FT4F-175H T-Bolt and BH00182A4 Self-Aligning Nut through the other side of the Clamp Assembly. Tighten bolts enough to prevent slippage on the tube while adjusting installation in step 4.

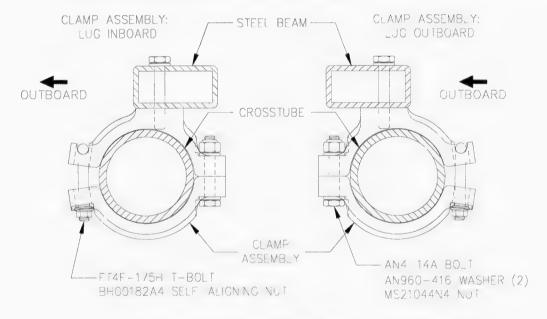


Figure 25.1 – Beam Installation – Clamp Detail Lug Inboard and Lug Outboard Installations Shown

4. In order to easily snap the basket in and out of the beams, the beams must be correctly aligned. The following procedures provide corrective actions for the conditions noted. Ensure beams are approximately parallel and aligned front to back before starting. For all procedures listed below, remove the basket before applying the correction and re-check after.

Revision 2 25-50-00

a. Beams too far apart (basket cannot be installed in top slots):

If the distance is less than 1/8": Rotate the forward beam slightly aft and/or the aft beam slightly forward until the basket can be set in the top slot of the beam.

If the distance is more than 1/8": Using ¼" commercial stainless steel fender washers, shim the FORWARD beam by inserting the washer(s) between the beam and both clamps. Only use enough shims to allow basket to enter the TOP slot.

b. Beams too close together (basket cannot be installed in top slots):

If the distance is less than 1/8": Rotate the forward beam slightly forward and/or the aft beam slightly aft until the basket can be set in the top slot of the beam.

If the distance is more than 1/8": Using ¼" commercial stainless steel fender washers, shim the AFT beam by inserting the washer(s) between the beam and both clamps. Only use enough shims to allow basket to enter the TOP slot.

c. Basket in top slots, resting with bottom fitting against beams, one fitting is away from the surface of the beam:

The beams are not parallel. Adjust the forward beam up or down the forward cross tube until both bottom fittings sit flat on the beams.

d. Basket in top slots, resting with bottom fittings against beams, both fittings do not line up with keyway (same direction):

The beams are not at the same height. Raise or lower the aft beam along the aft cross tube until the bottom fittings on the basket are aligned with both keyways.

e. Basket in top slots, resting with bottom fittings against beams, one fitting does not line up with keyway:

The landing gear cross tubes are not parallel. Using ½" commercial stainless steel fender washers, shim the top or bottom (as required) to align the bottom fitting on the basket with the keyway.

5. Bolts attaching beams to clamps (AN4-14A) that have been shimmed require longer bolts. There must be at least 0.38" of thread protruding with shims in place.

1 washer – AN4-14A bolt (no change)

2-3 washers - AN4-15A bolt

4-5 washers - AN4-16A bolt

Shimming in excess of 5 washers may indicate incorrect alignment in step 4. Confirm corrective actions taken, and if shims are still required, contact AERO Design Ltd. for further instructions.

6. Torque all $\frac{1}{4}$ " fasteners (12 places) to 50-70 inch-pounds. Note: A gap will remain on the side of the clamp assembly with the T-bolt as shown in Drawing 78601 and Figure 3.

25-2 BEAMS REMOVAL

Refer to Figure 25.1.

- 1. Remove Cargo Basket. Refer to section 25-4.
- 2. Remove fasteners securing clamp assemblies to the forward cross-tube. Remove Beam Assembly.
- 3. Remove fasteners securing clamp assemblies to the aft cross-tube. Remove Beam Assembly.

25-3 BASKET INSTALLATION

Refer to Figure 25.2 and Figure 25.3. Refer to section 25-5 for part numbers.

- 1. Set basket upper attachment into upper keyway in forward and aft beams.
- 2. At forward attachment hoop, lift basket until lower attachment fitting hits stop.
- 3. Push fitting into keyway and slide basket down until locked.
- 4. Repeat step 2 and Step 3 for aft attachment hoop.

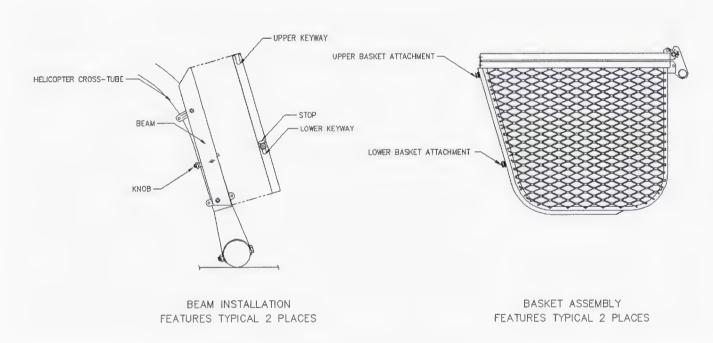


Figure 25.2 – Basket Attachment Features (Low beam installation shown. Beam attachment features typical.)

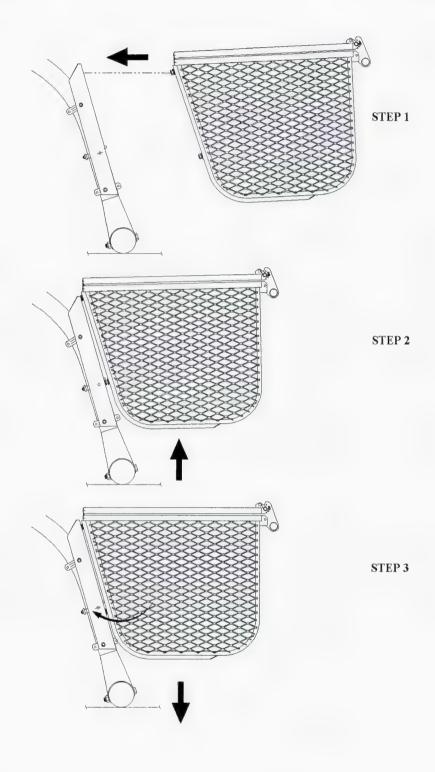


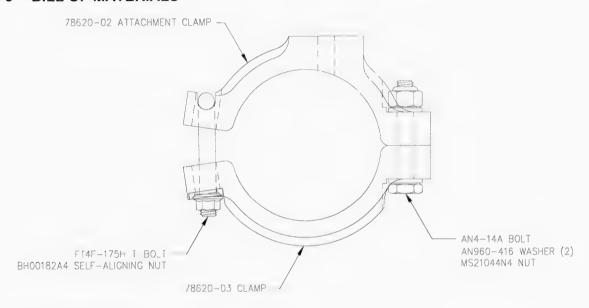
Figure 25.3 – Basket Attachment Steps

25-4 BASKET REMOVAL

Refer to Figure 4 and Figure 5.

- 1. Pull knob at bottom end of forward beam and lift basket until lower attachment fitting is free of keyway. Keep upper basket attachment in keyway on beam.
- 2. Pull knob at bottom end of aft beam and lift basket until lower attachment fitting is free of keyway. Keep upper basket attachment in keyway on beam.
- 3. Lift basket until upper attachments are out of keyways on both beams and remove basket from helicopter.

25-5 BILL OF MATERIALS



CLAMP ASSEMBLY

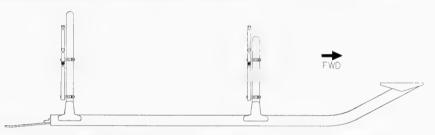
Qty.	Part Number	Description
1	78620-01	Clamp Assembly
. 1	78620-02	Attachment Clamp (with mounting pad)
. 1	78620-03	Clamp (no mounting pad)
. 1	AN4-14A	Bolt
. 2	AN960-416	Washer
. 1	MS21044N4	Nut
. 1	FT4F-175H	T-Bolt
. 1	BH00182A4	Self Aligning Nut

LOW PROVISIONS INSTALLATION



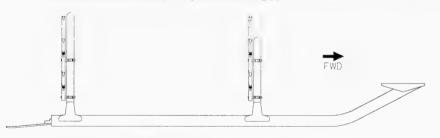
Qty.	Part Number	Description
1	78601-01-01	Low Provisions Installation- RH
1	78601-01-02	Low Provisions Installation- LH
. 4	78620-01	Clamp Assembly
. 2	78630-01	Low Beam Assembly
. 4	AN4-14A	Bolt
. 4	AN960-416	Washer
. A/R		Commercial Stainless Steel Fender Washer

MID PROVISIONS INSTALLATION



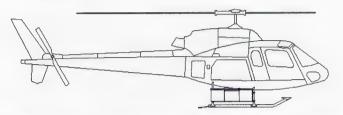
Qty.	Part Number	Description
1	78601-03-01	Mid Provisions Installation - RH
1	78601-03-02	Mid Provisions Installation - LH
. 4	78620-01	Clamp Assembly
. 2	78632-01	Mid Beam Assembly
. 4	AN4-14A	Bolt
. 4	AN960-416	Washer
. A/R		Commercial Stainless Steel Fender Washer

HIGH PROVISIONS INSTALLATION



Qty.	Part Number	Description
1	78601-02-01	High Provisions Installation - RH
1	78601-02-02	High Provisions Installation - LH
. 4	78620-01	Clamp Assembly
. 2	78631-01	High Beam Assembly
. 4	AN4-14A	Bolt
. 4	AN960-416	Washer
. A/R		Commercial Stainless Steel Fender Washer

SHORT BASKET - MODEL 77601



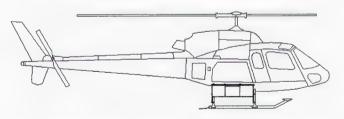
Quick Release Cargo Basket: Configuration 77601-01 (Short Basket, Low mounted)

Qty.	Part Number	Description
1	77601-01-01	Short Basket Installation (Low - RH)
. 1	78601-01-01	Low Provisions Installation (RH)
. 1	77610-01	Short Basket Assembly
1	77601-01-02	Short Basket Installation (Low - LH)
. 1	78601-01-02	Low Provisions Installation (LH)
. 1	77610-01	Short Basket Assembly



Quick Release Cargo Basket: Configuration 77601-03 (Short Basket, Mid mounted)

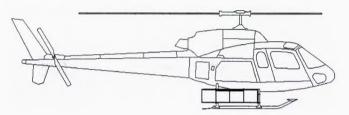
Qty.	Part Number	Description
1	77601-03-01	Short Basket Installation (Mid - RH)
. 1	78601-03-01	Mid Provisions Installation (RH)
. 1	77610-01	Short Basket Assembly
1	77601-03-02	Short Basket Installation (Mid - LH)
. 1	78601-03-02	Mid Provisions Installation (LH)
. 1	77610-01	Short Basket Assembly



Quick Release Cargo Basket: Configuration 77601-02 (Short Basket, High mounted)

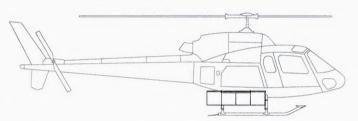
Qty.	Part Number	Description
1	77601-02-01	Short Basket Installation (High - RH)
. 1	78601-02-01	High Provisions Installation (RH)
. 1	77610-01	Short Basket Assembly
1	77601-02-02	Short Basket Installation (High - LH)
. 1	78601-02-02	High Provisions Installation (LH)
. 1	77610-01	Short Basket Assembly

MEDIUM BASKET - MODEL 76401



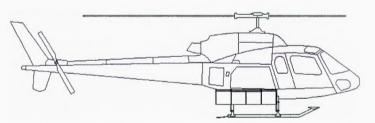
Quick Release Cargo Basket: Configuration 76401-01 (Medium Basket, Low Mounted)

Qty.	Part Number	Description
1	76401-01-01	Medium Basket Installation (Low - RH)
. 1	78601-01-01	Low Provisions Installation (RH)
. 1	76410-01-01	Medium Basket Assembly (RH)
1	76401-01-02	Medium Basket Installation (Low - LH)
. 1	78601-01-02	Low Provisions Installation (LH)
. 1	76410-01-02	Medium Basket Assembly (LH)



Quick Release Cargo Basket: Configuration 76401-03 (Medium Basket, Mid Mounted)

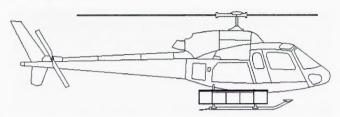
Qty.	Part Number	Description
1	76401-03-01	Medium Basket Installation (Mid - RH)
. 1	78601-03-01	Mid Provisions Installation (RH)
. 1	76410-01-01	Medium Basket Assembly (RH)
1	76401-03-02	Medium Basket Installation (Mid - LH)
. 1	78601-03-02	Mid Provisions Installation (LH)
. 1	76410-01-02	Medium Basket Assembly (LH)



Quick Release Cargo Basket: Configuration 76401-02 (Medium Basket, High Mounted)

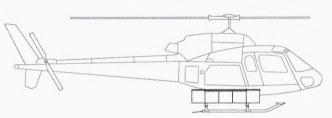
Qty.	Part Number	Description	
1	76401-02-01	Medium Basket Installation (High - RH)	
. 1	78601-02-01	High Provisions Installation (RH)	
. 1	76410-01-01	Medium Basket Assembly (RH)	
1	76401-02-02	Medium Basket Installation (High - LH)	
. 1	78601-02-02	High Provisions Installation (LH)	
. 1	76410-01-02	Medium Basket Assembly (LH)	

LONG BASKET - MODEL 78401



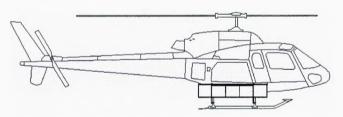
Quick Release Cargo Basket: Configuration 78401-01 (Long Basket, Low Mounted)

Qty.	Part Number	Description	
1	78401-01-01	Long Basket Installation (Low - RH)	
. 1	78601-01-01	Low Provisions Installation (RH)	
. 1	78410-01	Long Basket Assembly	
1	78401-01-02	Long Basket Installation (Low - LH)	
. 1	78601-01-02	Low Provisions Installation (LH)	
. 1	78410-01	Long Basket Assembly	



Quick Release Cargo Basket: Configuration 78401-03 (Long Basket, Mid Mounted)

Qty.	Part Number	Description					
1	78401-03-01	Long Basket Installation (Mid - RH)					
. 1	78601-03-01	Mid Provisions Installation (RH)					
. 1	78410-01	Long Basket Assembly					
1	78401-03-02	Long Basket Installation (Mid - LH)					
. 1	78601-03-02	Mid Provisions Installation (LH)					
. 1	78410-01	Long Basket Assembly					



Quick Release Cargo Basket: Configuration 78401-02 (Long Basket, High Mounted)

Qty.	Part Number	Description	
1	78401-02-01	Long Basket Installation (High - RH)	
. 1	78601-02-01	High Provisions Installation (RH)	
. 1	78410-01	Long Basket Assembly	
1	78401-02-02	Long Basket Installation (High - LH)	
. 1	78601-02-02	High Provisions Installation (LH)	
. 1	78410-01	Long Basket Assembly	

25-6 WEIGHT AND BALANCE

This section contains weight and balance information for cargo basket models 764, 776 and 784. Each cargo basket model has multiple configurations. Refer to the weight and balance information applicable to basket model and configuration installed.

Determine which height (low, mid or high) and length (short, medium, or long) and locate on chart. If arm is required, divide the moment by the weight.

Lateral moment shown is for right side. Left side installation lateral moment is negative.

Two weight and balance configurations are required: Attachment Provisions only; and Basket Installed.

						E	Basket Co	nfigurat	ion				
			Provisions Or	nly	Short			Medium			Long		
Part No.			78601-XX			77601-XX		76401-XX			78401-XX		
			Longitudinal	Lateral		Longitudinal	Lateral		Longitudinal	Lateral		Longitudinal	Lateral
Mounting	Dash	weight	moment	moment	weight	moment	moment	weight	moment	moment	weight	moment	moment
Provisions	No.	lbs	in-lb	in-lb	lbs	in-lb	in-lb	lbs	in-lb	in-lb	lbs	in-lb	in-lb
Standard Wall													
Low	-01	6.4	866.8	241.0	41.4	5616.3	1924.5	51.4	7387.3	2428.0	63.9	8669.6	3024.0
Mid	-03	8.0	1083.9	298.2	43.0	5833.4	1925.7	53.0	7604.4	2413.2	65.5	8886.7	3000.7
High	-02	9.4	1273.9	346.0	44.4	6023.4	1942.0	54.4	7794.4	2420.5	66.9	9076.7	2996.8
Light Wall													
Low	-01	3.4	459.7	128.2	38.4	5209.2	1724.2	48.4	6980.2	2202.7	60.9	8262.5	2778.9
Mid	-03	4.0	541.1	149.4	39.0	5290.6	1745.4	49.0	7061.6	2223.9	61.5	8343.9	2800.2
High	-02	4.8	649.7	177.2	39.8	5399.2	1773.2	49.8	7170.2	2251.7	62.3	8452.4	2828.0

Table 25.1 – Weight and Balance (Standard Units)

						E	Basket Co	nfigurati	on				
		Provisions Only		Short			Medium			Long			
Part No.			78601-XX			77601-XX			76401-XX		78401-XX		
			Longitudinal	Lateral		Longitudinal	Lateral		Longitudinal	Lateral	-	Longitudinal	Lateral
9	Dash	weight	moment	moment	weight	moment	moment	weight	moment	moment	weight	moment	moment
Provisions	No.	kg	mm-kg	mm-kg	kg	mm-kg	mm-kg	kg	mm-kg	mm-kg	kg	mm-kg	mm-kg
Standard Wall													
Low	-01	2.9	9962.3	2769.4	18.7	64549.3	22118.2	23.3	84903.8	27905.1	28.9	99641.0	34755.0
Mid	-03	3.6	12457.7	3427.7	19.5	67044.7	22132.9	24.0	87399.2	27735.9	29.6	102136.4	34488.1
High	-02	4.3	14641.2	3976.9	20.1	69228.2	22320.0	24.6	89582.7	27819.6	30.3	104319.9	3442.5
Light Wall													
Low	-01	1.5	5283.4	1473.0	17.4	59870.4	19816.1	21.9	80224.9	25315.6	27.6	94962.1	31938.6
Mid	-03	1.8	6219.2	1717.5	17.6	60806.2	20060.7	22.2	81160.7	25560.2	27.8	95797.9	32183.2
High	-02	2.2	7466.9	2036.6	18.0	62053.9	20379.8	22.5	82408.4	25879.3	28.2	97145.6	32502.2

Table 25.2 – Weight and Balance (Metric Units)

OPTIONS. The following weight and balance is for optional configurations.

Standard

P/N	Description	Weight	Long	gitudinal	Lateral		
			arm	moment	arm	moment	
_		lb	in	in-lb	in	in-lb	
70406-01	Front End Cutout	-0.3	107.5	-32.3	*	*	
70405-01	Lid Step (Short Basket)	4.0	135.7	542.8	*	*	
70405-01	Lid Step (Medium Basket)	5.8	144.9	840.4	*	*	
70405-01	Lid Step (Long Basket)	7.7	135.7	1044.9	*	*	

Metric

P/N	Description	Weight	Long	gitudinal	Lateral	
		kg	arm mm	Moment mm-kg	arm mm	moment mm-kg
70406-01	Front End Cutout	-0.1	2730.5	-273.1	*	*
70405-01	Lid Step (Short Basket)	1.8	3446.8	6204.2	*	*
70405-01	Lid Step (Medium Basket)	2.6	3680.5	9569.3	*	*
70405-01	Lid Step (Long Basket)	3.5	3446.8	12063.8	*	*

^{*}Note: Lateral arm is the same as the basket configuration. Lateral moment is calculated with the lateral arm.

25-7 STRUCTURAL FASTENER DATA

Refer to Eurocopter Standard Practices Manual for torque values not listed in this ICA.